

24
WILLIAMS

INDUSTRY



THE
A. R. WILLIAMS MACHINERY
COMPANY, LIMITED

HALIFAX WINNIPEG MONTREAL OTTAWA TORONTO
CALGARY VANCOUVER VICTORIA



CATALOG
No. 201

THE BROADEST LINE OF ITS KIND

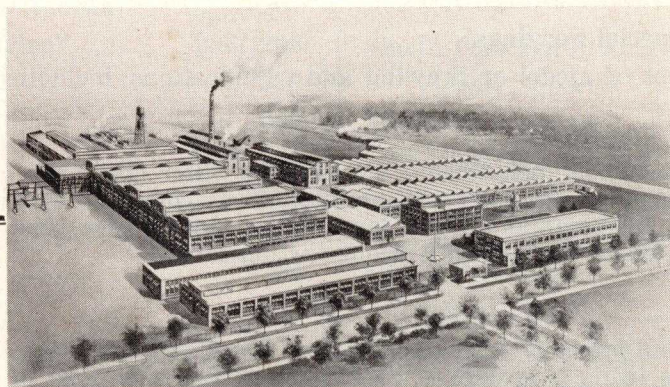
J. H. WILLIAMS & CO., BUFFALO 7, NEW YORK

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WILLIAMS

DROP-FORGINGS AND DROP-FORGED TOOLS

NOTICE - Finishes, materials and
designs are subject to change without
notice or regard to catalog descriptions.



J. H. WILLIAMS & CO.

ESTABLISHED 1882 — INCORPORATED JULY 1, 1895

GENERAL OFFICES AND FACTORY
400 VULCAN STREET BUFFALO 7, NEW YORK

DISTRICT SALES OFFICE
225 Lafayette St., New York 12, N. Y.

DISTRICT SALES OFFICES AND WAREHOUSES
117 North Jefferson Street, Chicago 6, Ill. 2266 East 38th Street, Los Angeles 58, Calif.

Catalog No. 201

Industrial Edition

This Industrial Catalog supersedes all previous issues, which are hereby withdrawn. A separate Catalog covering additional Automotive Service tools is available on request. All Prices are subject to change without notice.

Cuts Illustrating Our Goods

Furnished to customers; if desired, we will edit copy for printer and check proof.

Dimensions

Unless otherwise stated, all dimensions are in inches.

Electric Welding

We are prepared to electric-weld rounds up to and including 1 1/8 inch diameter; by this means we can supply several of our stock specialties, such as Rod Ends, with shanks of any reasonable length.

Heat-treating, Annealing, Tempering and Case-hardening Done to Order

We have ample facilities for handling work of this class and solicit inquiries therefor.

Chemical Analyses and Physical Tests

Our laboratories are thoroughly equipped and we offer their services for such analyzing as may be required.

Estimates for Special Forgings

Furnished on receipt of model or drawing and specifications, including quantity.

Dies for Special Forgings

Charges for Dies and Tools include only a portion of their cost. We assume the risk of breakage and the expense of repair and maintenance. Tools are fitted to our equipment and are not subject to surrender. When inactive for three years after date of last order, they may be discarded at our option, without further notice.

Guarantee

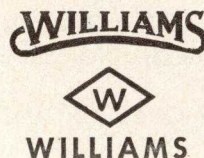
We guarantee all our product, whether Standard Stock goods, as described in this catalog, or Special Forgings made to order, to be free from imperfections of workmanship and material.

Cable Address, "WILLRICH, BUFFALO NY"

Codes: Western Union, Lieber's Standard, Lieber's 5 Letter, "ABC" 5th Edition, Bentley's.

We are the sole makers of the following brands of drop-forged products:

**VULCAN
SUPERRENCH
SUPERSOCKET**



**AGRIPPA
SUPERECTOR
SUPERJUSTABLE**

J. H. Williams & Co., originated the first uniform line of fifteen-degree angle Wrenches, since generally adopted.

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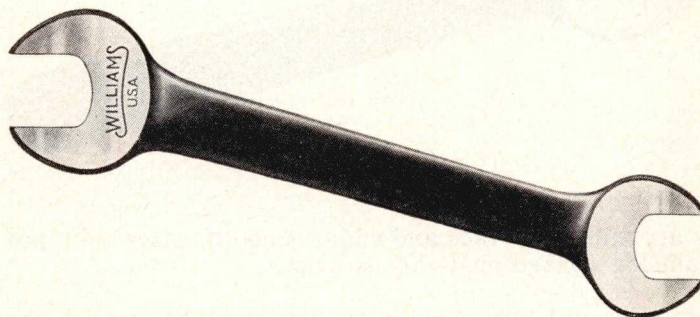
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STANDARD SPECIFICATIONS
FOR
WILLIAMS' ♦ "SUPERIOR" DROP-FORGED WRENCHES
(Carbon Steel)

Williams' "Superior" Wrenches, drop-forged from improved quality carbon steel and specially processed to Williams' exacting specifications, are approximately *twice as strong* as old-fashioned carbon steel wrenches. Over 1000 sizes in a wide range of patterns.



Finish

Openings milled or broached, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads polished bright.

All openings are slightly larger than stated in tables to allow for clearance and variations.

Special Milling

On small quantities where special openings are specified, an extra charge will be made to cover the cost of "setting up" machines. No extra charge will be made for this special work when quantities are sufficient to cover the cost.

A sample Nut or Screw, as gauge, should accompany orders.

Special Wrenches

made to order. Prices will be quoted upon receipt of models, or drawings and specifications stating kind of finish (see above description) and quantity required.

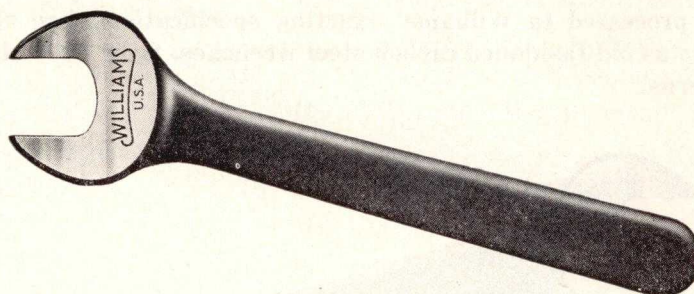
When Ordering

please use numbers and state whether requirements are for American Standard HEAVY (U.S.S.), American Standard LIGHT (S.A.E.), American Standard REGULAR, Whitworth Standard or m/m openings and condition of finish desired.

WILLIAMS' ♦ "SUPERIOR" ENGINEERS' WRENCHES
(Carbon Steel)

15° Angle, Single Head

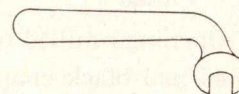
For Standard Nuts and Cap Screws



These Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

Wrenches of this style but with handle tapered will be furnished on orders for the larger sizes, beginning with No. 11.

Handles can be bent above heads at angles of 45° to 90° from opening, at an additional charge; see cut at right.



(Continued on opposite page)

| No. | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Head Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | Extreme Length, Approx. | Weight Each, Lbs. | No. |
|-------|-----------------|--|--|--|-----------------------------------|-------------------------|-------------------|-------|
| S 000 | 3/16 | ..... | ..... | ..... | *Nos. 2 & 3 | 2 1/2 | .03 | S 000 |
| S 00 | 1/4 | ..... | ..... | ..... | *No. 4 | 2 7/8 | .05 | S 00 |
| 00 | 5/16 | 1/8 | 1/8 | ..... | *Nos. 5 & 6 | 3 5/8 | .06 | 00 |
| 700 | 3/8 | ..... | 3/16 | ..... | *No. 10 | 4 1/8 | .09 | 700 |
| 0 | 13/32 | 3/16 | ..... | ..... | ..... | 4 1/8 | .08 | 0 |
| 701 | 7/16 | ..... | 1/4 | 1/4 | 1/4 & *No. 12 | 4 3/4 | .13 | 701 |
| 1 | 1/2 | 1/4 | 5/16 | 5/16 | ..... | 4 3/4 | .13 | 1 |
| 702 | 9/16 | ..... | 3/8 | 3/8 | 5/16 | 5 5/8 | .20 | 702 |
| 2 | 19/32 | 5/16 | ..... | ..... | ..... | 5 5/8 | .20 | 2 |
| 703 | 5/8 | ..... | 7/16 | 7/16 | 3/8 | 6 1/2 | .33 | 703 |
| 3 | 11/16 | 3/8 | ..... | ..... | ..... | 6 1/2 | .33 | 3 |
| 704 | 3/4 | ..... | 1/2 | 1/2 | 7/16 | 7 3/8 | .44 | 704 |
| 4 | 25/32 | 7/16 | ..... | ..... | ..... | 7 3/8 | .42 | 4 |
| 705 | 13/16 | ..... | 9/16 | ..... | 1/2 | 8 3/8 | .64 | 705 |
| 5 | 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 8 3/8 | .61 | 5 |
| 6 | 15/16 | 9/16 | ..... | 5/8 | ..... | 9 1/2 | .91 | 6 |
| 706 | 1 | ..... | 3/4 | ..... | 5/8 | 9 1/2 | .89 | 706 |

*Amer. Std. Machine-Screw and Stove-Bolt Nuts.

♦ REGISTERED TRADE MARK

(Alloy Steel Wrenches, page 31)

WILLIAMS' ♦ "SUPERIOR" ENGINEERS' WRENCHES
(Carbon Steel)

15° Angle, Single Head
For Standard Nuts and Cap Screws
(Continued)

Supplied in Whitworth Standard and Metric Measure; see page 212.

The following Wrenches have hole of diameter given below in end of handle:

No. 17 17A 18 18A 19 19A 19B 19C 20 20A 20B 21A 21B 21C 22A 22B
Hole 5/8 5/8 3/4 3/4 7/8 7/8 7/8 7/8 1 1 1 1-1/8 1-1/8 1-1/8 1-1/4 1-1/4"

| No. | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Head Cap Screw; Diam Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | Extreme Length, Approx. | Weight Each, Lbs. | No. |
|------|-----------------|--|---|--|-----------------------------------|-------------------------|-------------------|------|
| 7 | 1 1/16 | 5/8 | 7/8 | 3/4 | 3/4 | 10 3/4 | 1.3 | 7 |
| 707 | 1 1/8 | | | | | 10 3/4 | 1.4 | 707 |
| 8 | 1 1/4 | 3/4 | (†1) | 7/8 | 7/8 | 12 1/4 | 2.1 | 8 |
| 8A | 1 5/16 | | 1 | | | 12 1/4 | 2.1 | 8A |
| 708A | 1 3/8 | | (†1 1/8) | | | 12 1/4 | 2. | 708A |
| 9 | 1 7/16 | 7/8 | | 1 | | 13 7/8 | 2.7 | 9 |
| 709 | 1 1/2 | | 1 1/8 (†1 1/4) | | 1 | 13 7/8 | 2.7 | 709 |
| 10 | 1 5/8 | 1 | | 1 1/8 | | 15 1/2 | 3.5 | 10 |
| 10A | 1 11/16 | | 1 1/4 | | 1 1/8 | 15 1/2 | 3.5 | 10A |
| 11 | 1 13/16 | 1 1/8 | | 1 1/4 | | 17 1/8 | 4.6 | 11 |
| 11A | 1 7/8 | | | | 1 1/4 | 17 1/8 | 4.5 | 11A |
| 12 | 2 | 1 1/4 | | 1 3/8 | | 18 7/8 | 5.8 | 12 |
| 12A | 2 1/16 | | | | 1 3/8 | 18 7/8 | 5.8 | 12A |
| 13 | 2 3/16 | 1 3/8 | | 1 1/2 | | 20 3/4 | 7.2 | 13 |
| 13A | 2 1/4 | | | | 1 1/2 | 20 3/4 | 7.2 | 13A |
| 14 | 2 3/8 | 1 1/2 | | | | 22 3/4 | 10. | 14 |
| 14A | 2 7/16 | | | | 1 5/8 | 22 3/4 | 9.6 | 14A |
| 15 | 2 9/16 | 1 5/8 | | | | 24 | 11.1 | 15 |
| 15A | 2 5/8 | | | | 1 3/4 | 24 | 11.2 | 15A |
| 16 | 2 3/4 | 1 3/4 | | | | 27 | 13.6 | 16 |
| 16B | 2 13/16 | | | | 1 7/8 | 27 | 13.9 | 16B |
| 16A | 2 15/16 | 1 7/8 | | | | 27 | 13.7 | 16A |
| 17A | 3 | | | | 2 | 30 | 18.9 | 17A |
| 17 | 3 1/8 | 2 | | | | 30 | 18.9 | 17 |
| 18A | 3 3/8 | | | | 2 1/4 | 34 | 28.1 | 18A |
| 18 | 3 1/2 | 2 1/4 | | | | 34 | 26.5 | 18 |
| 19B | 3 3/4 | | | | 2 1/2 | 38 | 33.1 | 19B |
| 19 | 3 7/8 | 2 1/2 | | | | 38 | 33.3 | 19 |
| 19C | 4 1/8 | | | | 2 3/4 | 38 | 31.5 | 19C |
| 19A | 4 1/4 | 2 3/4 | | | | 38 | 32.3 | 19A |
| 20B | 4 1/2 | | | | 3 | 42 | 50.5 | 20B |
| 20 | 4 5/8 | 3 | | | | 42 | 50.5 | 20 |
| 20A | 5 | 3 1/4 | | | | 42 | 50.4 | 20A |
| 21A | 5 3/8 | 3 1/2 | | | | 47 | 90.5 | 21A |
| 21B | 5 3/4 | 3 3/4 | | | | 47 | 90.5 | 21B |
| 21C | 6 1/8 | 4 | | | | 47 | 85. | 21C |
| 22A | 6 7/8 | 4 1/2 | | | | 52 | 156. | 22A |
| 22B | 7 5/8 | 5 | | | | 52 | 149. | 22B |

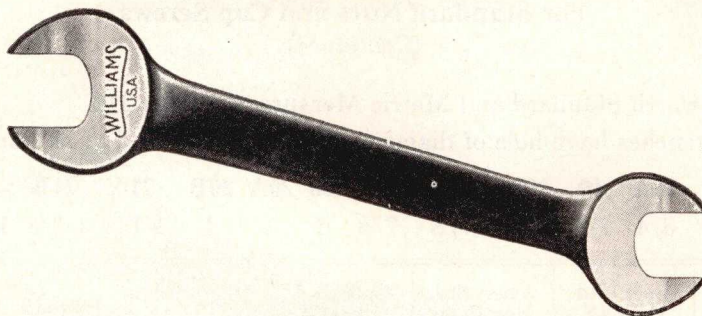
† Old style cap screw—now obsolete.

♦ REGISTERED TRADE MARK

(Alloy Steel Wrenches, page 31)

WILLIAMS' "SUPERIOR" ENGINEERS' WRENCHES
(Carbon Steel)

15° Angle, Double Head



These Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

Supplied in Whitworth Standard and Metric Measure; see page 212.

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | Amer. Std. Hex Head Cap Screws; Diam. Screws | Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | Amer. Std. REGULAR Nuts; Size Bolts | Ex-treme Length, Approx. | Weight Each, Lbs. | No. |
|------|------------------|--|--|--|-------------------------------------|--------------------------|-------------------|------|
| 721 | 5/16 & 3/8 | 1/8 | 1/8 & 3/16 | | | 4 1/8 | .08 | 721 |
| 21 | 5/16 & 13/32 | 1/8 & 3/16 | 1/8 | | | 4 1/8 | .08 | 21 |
| 722 | 5/16 & 7/16 | 1/8 | 1/8 & 1/4 | 1/4 | 1/4 | 4 1/2 | .11 | 722 |
| 723 | 3/8 & 7/16 | | 3/16 & 1/4 | 1/4 | 1/4 | 4 1/2 | .11 | 723 |
| 723A | 3/8 & 1/2 | 1/4 | 3/16 & 5/16 | 5/16 | | 4 7/8 | .15 | 723A |
| 23 | 13/32 & 1/2 | 3/16 & 1/4 | 5/16 | 5/16 | | 4 7/8 | .15 | 23 |
| 24 | 13/32 & 19/32 | 3/16 & 5/16 | | | | 5 1/4 | .18 | 24 |
| 725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5 1/4 | .17 | 725 |
| 725A | 7/16 & 9/16 | | 1/4 & 3/8 | 1/4 & 3/8 | 1/4 & 5/16 | 5 1/4 | .17 | 725A |
| 725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 5 3/4 | .17 | 725B |
| 25 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | | 5 3/4 | .22 | 25 |
| 726 | 1/2 & 5/8 | 1/4 | 5/16 & 7/16 | 5/16 & 7/16 | 3/8 | 6 1/4 | .30 | 726 |
| 26 | 1/2 & 11/16 | 1/4 & 3/8 | 5/16 | 5/16 | | 6 1/4 | .30 | 26 |
| 727 | 9/16 & 5/8 | | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 1/4 | .25 | 727 |
| 27C | 9/16 & 11/16 | 3/8 | 3/8 | 3/8 | 5/16 | 6 1/2 | .34 | 27C |
| 27 | 19/32 & 11/16 | 5/16 & 3/8 | | | | 6 3/4 | .33 | 27 |
| 27B | 5/8 & 11/16 | 3/8 | 7/16 | 7/16 | 3/8 | 6 3/4 | .33 | 27B |
| 728 | 9/16 & 3/4 | | 3/8 & 1/2 | 3/8 & 1/2 | 5/16 & 7/16 | 7 1/4 | .40 | 728 |
| 28 | 19/32 & 25/32 | 5/16 & 7/16 | | | | 7 1/4 | .42 | 28 |
| 28S | 5/8 & 25/32 | 7/16 | 7/16 | 7/16 | 3/8 | 7 1/4 | .40 | 28S |
| 729 | 5/8 & 3/4 | | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | 7 1/4 | .39 | 729 |
| 29B | 11/16 & 3/4 | 3/8 | 1/2 | 1/2 | 7/16 | 7 7/8 | .48 | 29B |
| 29 | 11/16 & 25/32 | 3/8 & 7/16 | | | | 7 7/8 | .48 | 29 |
| 29C | 11/16 & 13/16 | 3/8 | 9/16 | | 1/2 | 7 7/8 | .47 | 29C |
| 730 | 5/8 & 13/16 | | 7/16 & 9/16 | 7/16 | 3/8 & 1/2 | 8 1/2 | .61 | 730 |
| 30 | 11/16 & 7/8 | 3/8 & 1/2 | 5/8 | 9/16 | 9/16 | 8 1/2 | .61 | 30 |
| 731 | 3/4 & 13/16 | | 1/2 & 9/16 | 1/2 | 7/16 & 1/2 | 9 1/8 | .75 | 731 |
| 731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 9 1/8 | .75 | 731A |
| 31B | 25/32 & 13/16 | 7/16 | 9/16 | | 1/2 | 9 1/8 | .73 | 31B |
| 31 | 25/32 & 7/8 | 7/16 & 1/2 | 5/8 | 9/16 | 9/16 | 9 1/8 | .70 | 31 |
| 731B | 13/16 & 7/8 | 1/2 | 9/16 & 5/8 | 9/16 | 1/2 & 9/16 | 9 1/8 | .75 | 731B |
| 32B | 13/16 & 15/16 | 9/16 | 9/16 | 5/8 | 1/2 | 10 | .98 | 32B |
| 33A | 7/8 & 15/16 | 1/2 & 9/16 | 5/8 | 9/16 & 5/8 | 9/16 | 10 | .98 | 33A |
| 733 | 7/8 & 1 | 1/2 | 5/8 & 3/4 | 9/16 | 9/16 & 5/8 | 10 | .97 | 733 |
| 33C | 15/16 & 1 | 9/16 | 3/4 | 5/8 | 5/8 | 10 | .97 | 33C |
| 34 | 7/8 & 1 1/16 | 1/2 & 5/8 | 5/8 | 9/16 & 3/4 | 9/16 | 11 | 1.3 | 34 |
| 34A | 15/16 & 1 1/16 | 9/16 & 5/8 | | 5/8 & 3/4 | | 11 | 1.3 | 34A |
| 35 | 31/32 & 1 1/16 | 9/16 & 5/8 | | 3/4 | | 11 | 1.4 | 35 |
| 735 | 1 & 1 1/8 | | 3/4 & 7/8 | | 5/8 & 3/4 | 11 | .88 | 735 |
| 36B | 1 1/16 & 1 1/8 | 5/8 | 7/8 | 3/4 | 3/4 | 12 3/8 | 2. | 36B |
| 37 | 1 1/16 & 1 1/4 | 5/8 & 3/4 | | 3/4 & 7/8 | | 12 3/8 | 1.9 | 37 |
| 737 | 1 1/8 & 1 1/4 | 3/4 | 7/8 | 7/8 | 3/4 | 12 3/8 | 2. | 737 |

★ REGISTERED TRADE MARK

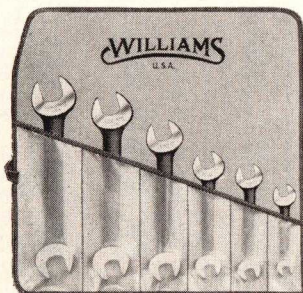
(Alloy Steel Wrenches, page 32)

1-92

WILLIAMS' "SUPERIOR" ENGINEERS' WRENCHES (Carbon Steel)

15° Angle, Double Head—(Continued)

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | Amer. Std. Hex Head Cap Screws; Diam. Screws | Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | Amer. Std. REGULAR Nuts; Size Bolts | Ex-treme Length, Approx. | Weight Each, Lbs. | No. |
|-----|------------------|--|--|--|-------------------------------------|--------------------------|-------------------|-----|
| 37A | 1 1/8 & 1 5/16 | | 7/8 & 1 | | 3/4 & 7/8 | 12 3/8 | 1.9 | 37A |
| 39B | 1 1/4 & 1 5/16 | 3/4 | 1 | 7/8 | 7/8 | 14 | 2.8 | 39B |
| 39 | 1 1/4 & 1 7/16 | 3/4 & 7/8 | | 7/8 & 1 | | 14 | 2.8 | 39 |
| 39A | 1 5/16 & 1 1/2 | | 1 & 1 1/8 | | 7/8 & 1 | 14 | 2.7 | 39A |
| 39C | 1 3/8 & 1 7/16 | 7/8 | | 1 | | 14 | 2.5 | 39C |
| 40 | 1 1/4 & 1 5/8 | 3/4 & 1 | | 7/8 & 1 1/8 | | 15 3/4 | 3.7 | 40 |
| 41 | 1 7/16 & 1 5/8 | 7/8 & 1 | | 1 & 1 1/8 | | 15 3/4 | 3.8 | 41 |
| 41B | 1 1/2 & 1 5/8 | 1 | 1 1/8 | 1 1/8 | 1 | 15 3/4 | 3.8 | 41B |
| 42 | 1 7/16 & 1 13/16 | 7/8 & 1 1/8 | | 1 & 1 1/4 | | 17 | 5.5 | 42 |
| 42A | 1 1/2 & 1 11/16 | | 1 1/8 & 1 1/4 | | 1 & 1 1/8 | 17 | 5.8 | 42A |
| 43 | 1 5/8 & 1 13/16 | 1 & 1 1/8 | | 1 1/8 & 1 1/4 | | 17 | 5.8 | 43 |
| 44 | 1 5/8 & 2 | 1 & 1 1/4 | | 1 1/8 & 1 3/8 | | 19 | 7.8 | 44 |
| 44A | 1 11/16 & 1 7/8 | | 1 1/4 | | 1 1/8 & 1 1/4 | 19 | 7.3 | 44A |
| 45 | 1 13/16 & 2 | 1 1/8 & 1 1/4 | | 1 1/4 & 1 3/8 | | 19 | 7.1 | 45 |
| 45A | 1 7/8 & 2 1/16 | | | 1 1/4 & 1 3/8 | | 19 | 6.7 | 45A |
| 47 | 2 & 2 3/16 | 1 1/4 & 1 3/8 | | 1 3/8 & 1 1/2 | | 21 | 9.3 | 47 |
| 47B | 2 1/16 & 2 1/4 | | | 1 3/8 & 1 1/2 | | 21 | 9.3 | 47B |
| 48 | 2 & 2 3/8 | 1 1/4 & 1 1/2 | | 1 3/8 | | 23 | 13. | 48 |
| 49 | 2 3/16 & 2 3/8 | 1 3/8 & 1 1/2 | | 1 1/2 | | 23 | 11.9 | 49 |
| 49A | 2 1/4 & 2 7/16 | | | | 1 1/2 & 1 5/8 | 23 | 12.2 | 49A |
| 51 | 2 3/8 & 2 9/16 | 1 1/2 & 1 5/8 | | | | 25 | 13.3 | 51 |
| 51A | 2 7/16 & 2 5/8 | | | | 1 5/8 & 1 3/4 | 25 | 13.3 | 51A |
| 53 | 2 9/16 & 2 3/4 | 1 5/8 & 1 3/4 | | | | 27 | 16.7 | 53 |
| 53A | 2 5/8 & 2 13/16 | | | | 1 3/4 & 1 7/8 | 27 | 16.5 | 53A |
| 54C | 2 3/4 & 2 15/16 | 1 3/4 & 1 7/8 | | | | 30 | 23.8 | 54C |
| 55A | 2 13/16 & 3 | | | | 1 7/8 & 2 | 32 | 25. | 55A |
| 55B | 2 15/16 & 3 1/8 | 1 7/8 & 2 | | | | 32 | 25. | 55B |
| 57B | 3 & 3 3/8 | | | | 2 & 2 1/4 | 36 | 36. | 57B |
| 57 | 3 1/8 & 3 1/2 | 2 & 2 1/4 | | | | 36 | 37. | 57 |
| 58A | 3 3/8 & 3 3/4 | | | | 2 1/4 & 2 1/2 | 38 | 48.5 | 58A |
| 58 | 3 1/2 & 3 7/8 | 2 1/4 & 2 1/2 | | | | 38 | 46. | 58 |
| 60A | 3 3/4 & 4 1/8 | | | | 2 1/2 & 2 3/4 | 40 | 48. | 60A |
| 60 | 3 7/8 & 4 1/4 | 2 1/2 & 2 3/4 | | | | 40 | 48. | 60 |
| 62A | 4 1/8 & 4 1/2 | | | | 2 3/4 & 3 | 43 | 67. | 62A |
| 62 | 4 1/4 & 4 5/8 | 2 3/4 & 3 | | | | 43 | 67. | 62 |
| 63A | 4 5/8 & 5 | 3 & 3 1/4 | | | | 47 | 76. | 63A |
| 64A | 5 & 5 3/8 | 3 1/4 & 3 1/2 | | | | 47 | 118. | 64A |



SET No. 25A
In Leatherette Roll
In Cardboard Box
Weight, 3.3 Lbs.

CONTENTS

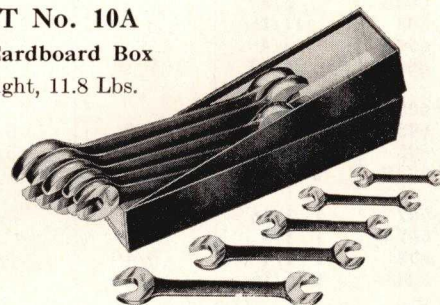
One each Nos. 723, 25, 727, 29, 731A and 33C with all popular openings 3/8" to 1".

See Previous Page and Table Above for Individual Wrench Opening and Bolt Size Tabulation.

★ REGISTERED TRADE MARK

(Alloy Steel Wrenches and Sets, pages 32 and 33)

SET No. 10A
In Cardboard Box
Weight, 11.8 Lbs.



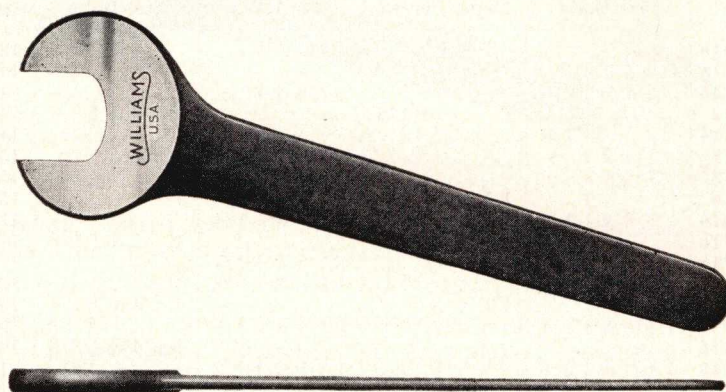
CONTENTS

One each Nos. 723, 25, 727, 29, 731, 33A, 735, 37, 39A and 39C with openings 3/8" to 1-7/16".

**WILLIAMS' "SUPERIOR" CHECK NUT,
OR "THIN" WRENCHES
(Carbon Steel)**

15° Angle, Single Head

For Check, Jam, or Lock Nuts, etc.



This class of Wrench is guaranteed amply strong for its intended purpose, but is not designed for severe service.

Supplied in Whitworth Standard and Metric Measure; see page 213.

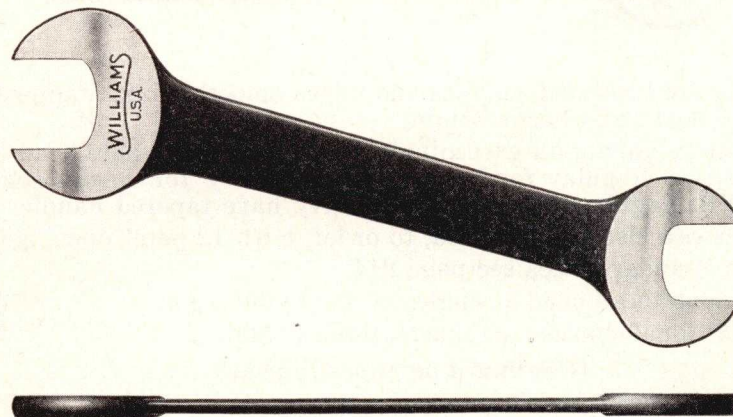
These Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

| No. | Nominal Opening | Amer. Std. HEAVY Jam Nut (U.S.S.); Size Bolt | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Jam Nut; Size Bolt | Extreme Length, Approx. | Thickness Head | Weight Each, Lbs. | No. |
|------|-----------------|--|--|---------------------------------------|-------------------------|----------------|-------------------|------|
| 601A | 7/16 | ..... | 1/4 | 1/4 | 4 | 5/32 | .08 | 601A |
| 601 | 1/2 | 1/4 | 5/16 | ..... | 4 | 5/32 | .08 | 601 |
| 602A | 9/16 | ..... | 3/8 | 5/16 | 4 1/2 | 11/64 | .12 | 602A |
| 602 | 19/32 | 5/16 | ..... | ..... | 4 1/2 | 11/64 | .12 | 602 |
| 603A | 5/8 | ..... | 7/16 | 3/8 | 5 1/8 | 3/16 | .16 | 603A |
| 603 | 11/16 | 3/8 | ..... | ..... | 5 1/8 | 3/16 | .16 | 603 |
| 604A | 3/4 | ..... | 1/2 | 7/16 | 5 7/8 | 7/32 | .23 | 604A |
| 604 | 25/32 | 7/16 | ..... | ..... | 5 7/8 | 7/32 | .23 | 604 |
| 605A | 13/16 | ..... | ..... | 1/2 | 6 5/8 | 1/4 | .33 | 605A |
| 605 | 7/8 | 1/2 | 9/16 | 9/16 | 6 5/8 | 1/4 | .33 | 605 |
| 606 | 15/16 | 9/16 | 5/8 | ..... | 7 1/2 | 9/32 | .48 | 606 |
| 606B | 1 | ..... | ..... | 5/8 | 7 1/2 | 9/32 | .48 | 606B |
| 607 | 1 1/16 | 5/8 | 3/4 | ..... | 8 1/2 | 5/16 | .66 | 607 |
| 607A | 1 1/8 | ..... | ..... | 3/4 | 8 1/2 | 5/16 | .66 | 607A |
| 608 | 1 1/4 | 3/4 | 7/8 | ..... | 10 | 3/8 | 1.1 | 608 |
| 608A | 1 5/16 | ..... | ..... | 7/8 | 10 | 3/8 | 1.1 | 608A |
| 609 | 1 7/16 | 7/8 | 1 | ..... | 11 5/8 | 7/16 | 1.6 | 609 |
| 609A | 1 1/2 | ..... | ..... | 1 | 11 5/8 | 7/16 | 1.6 | 609A |
| 610 | 1 5/8 | 1 | 1 1/8 | ..... | 13 1/4 | 1/2 | 2.5 | 610 |
| 610A | 1 11/16 | ..... | ..... | 1 1/8 | 13 1/4 | 1/2 | 2.5 | 610A |

**WILLIAMS' "SUPERIOR" CHECK NUT,
OR "THIN" WRENCHES
(Carbon Steel)**

15° Angle, Double Head

For Check, Jam, or Lock Nuts, etc.



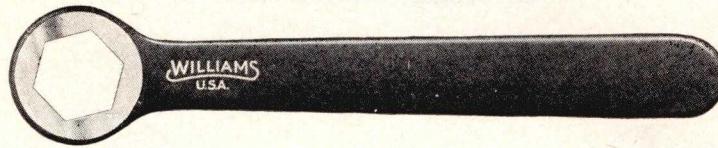
For description, see opposite page. Whitworth and Metric sizes, see page 213.

| No. | Nominal Openings | Amer. Std. HEAVY Jam Nuts (U.S.S.); Size Bolts | Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | Amer. Std. REGULAR Jam Nuts; Size Bolts | Extreme Length Approx. | Thick- ness Heads | Weight Each, Lbs. | No. |
|------|---------------------|--|--|---|------------------------------|-------------------------|-------------------------|------|
| 623 | 13/32 & 1/2 | 3/16 & 1/4 | 5/16 | ..... | 4 5/8 | 5/32 | .13 | 623 |
| 623D | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 | 4 5/8 | 5/32 | .08 | 623D |
| 624A | 7/16 & 9/16 | ..... | 1/4 & 3/8 | 1/4 & 5/16 | 4 3/4 | 5/32 | .11 | 624A |
| 624B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 | 4 3/4 | 5/32 | .11 | 624B |
| 625 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | ..... | 4 3/4 | 5/32 | .11 | 625 |
| 626S | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 5/16 & 3/8 | 6 | 3/16 | .17 | 626S |
| 627 | 19/32 & 11/16 | 5/16 & 3/8 | ..... | ..... | 6 | 3/16 | .19 | 627 |
| 629D | 5/8 & 3/4 | ..... | 7/16 & 1/2 | 3/8 & 7/16 | 6 3/4 | 3/16 | .23 | 629D |
| 629 | 11/16 & 25/32 | 3/8 & 7/16 | ..... | ..... | 6 3/4 | 3/16 | .23 | 629 |
| 630 | 11/16 & 7/8 | 3/8 & 1/2 | 9/16 | 9/16 | 7 1/2 | 7/32 | .36 | 630 |
| 630B | 3/4 & 13/16 | ..... | 1/2 | 7/16 & 1/2 | 7 1/2 | 7/32 | .33 | 630B |
| 630E | 3/4 & 7/8 | 1/2 | 1/2 & 9/16 | 7/16 & 9/16 | 7 1/2 | 7/32 | .33 | 630E |
| 631 | 25/32 & 7/8 | 7/16 & 1/2 | 9/16 | ..... | 7 1/2 | 7/32 | .34 | 631 |
| 631A | 13/16 & 7/8 | 1/2 | 9/16 | 1/2 & 9/16 | 7 1/2 | 7/32 | .34 | 631A |
| 632C | 7/8 & 15/16 | 1/2 & 9/16 | 9/16 & 5/8 | 9/16 | 8 3/4 | 1/4 | .36 | 632C |
| 634A | 7/8 & 1 | 1/2 | 9/16 | 9/16 & 5/8 | 8 7/8 | 1/4 | .59 | 634A |
| 634 | 7/8 & 1 1/16 | 1/2 & 5/8 | 9/16 & 3/4 | 9/16 | 8 7/8 | 1/4 | .54 | 634 |
| 632X | 15/16 & 1 | ..... | 5/8 | 5/8 | 8 7/8 | 1/4 | .57 | 632X |
| 634B | 15/16 & 1 1/16 | 9/16 & 5/8 | 5/8 & 3/4 | ..... | 8 7/8 | 1/4 | .59 | 634B |
| 635D | 1 & 1 1/8 | ..... | ..... | 5/8 & 3/4 | 10 1/2 | 9/32 | .95 | 635D |
| 637 | 1 1/16 & 1 1/4 | 5/8 & 3/4 | 3/4 & 7/8 | ..... | 10 1/2 | 9/32 | .89 | 637 |
| 637A | 1 1/8 & 1 5/16 | ..... | ..... | 3/4 & 7/8 | 10 1/2 | 9/32 | .89 | 637A |
| 639 | 1 1/4 & 1 7/16 | 3/4 & 7/8 | 7/8 & 1 | ..... | 12 1/2 | 3/8 | 1.7 | 639 |
| 640 | 1 1/4 & 1 5/8 | 3/4 & 1 | 7/8 & 1 1/8 | ..... | 12 1/2 | 3/8 | 1.8 | 640 |
| 640A | 1 5/16 & 1 1/2 | ..... | ..... | 7/8 & 1 | 12 1/2 | 3/8 | 1.6 | 640A |

♦ REGISTERED TRADE MARK

WILLIAMS' ♦“SUPERIOR” HEX-BOX WRENCHES
(Carbon Steel)

REGULAR PATTERN — 15° Angle



These Wrenches are broached, surface and edges smooth, sizes stamped, hardened and black enameled (baked on)—heads bright.

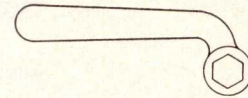
Designed for use requiring an exceedingly strong tool and where head clearance is limited. Two Patterns — Regular for general work, Heavy for severe service. Wrenches larger than No. 810 Regular and No. H809 Heavy have tapered handle.

These Wrenches can also be furnished, to order, with 12-point openings.

For Whitworth Standard sizes see page 214.

Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge; see illustration at right.

(Continued on opposite page)



| No. | Nominal Opening Across Flats | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Hd. Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGLR. Nut | Extreme Length, Approx. | Head | | Weight Each, Lbs. | No. |
|------|------------------------------|-------------------------------|------------------------------|-------------------------------|-----------------------|-------------------------|------------|---------------|-------------------|------|
| | | | | | | | Thick-ness | Outside Diam. | | |
| 800 | 13/32 | 3/16 | 3/16 | ..... | ..... | 3 1/2 | 7/32 | 45/64 | .08 | 800 |
| 801A | 7/16 | ..... | 1/4 | 1/4 | 1/4 | 4 | 17/64 | 27/32 | .11 | 801A |
| 801 | 1/2 | 1/4 | 5/16 | ..... | ..... | 4 | 17/64 | 27/32 | .11 | 801 |
| 802A | 9/16 | ..... | 3/8 | 3/8 | 5/16 | 4 7/8 | 5/16 | 63/64 | .17 | 802A |
| 802 | 19/32 | 5/16 | ..... | ..... | ..... | 4 7/8 | 5/16 | 63/64 | .17 | 802 |
| 803A | 5/8 | ..... | 7/16 | 7/16 | 3/8 | 5 7/8 | 23/64 | 1 9/64 | .25 | 803A |
| 803 | 11/16 | 3/8 | ..... | ..... | ..... | 5 7/8 | 23/64 | 1 9/64 | .25 | 803 |
| 804A | 3/4 | ..... | 1/2 | 1/2 | 7/16 | 6 7/8 | 13/32 | 1 9/32 | .38 | 804A |
| 804 | 25/32 | 7/16 | ..... | ..... | ..... | 6 7/8 | 13/32 | 1 9/32 | .38 | 804 |
| 805A | 13/16 | ..... | 9/16 | ..... | 1/2 | 7 3/4 | 29/64 | 1 27/64 | .52 | 805A |
| 805 | 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 7 3/4 | 29/64 | 1 27/64 | .52 | 805 |
| 806 | 15/16 | 9/16 | ..... | 5/8 | ..... | 8 3/4 | 1/2 | 1 19/32 | .69 | 806 |
| 806B | 1 | ..... | 3/4 | ..... | 5/8 | 8 3/4 | 1/2 | 1 19/32 | .69 | 806B |
| 807 | 1 1/16 | 5/8 | ..... | 3/4 | ..... | 9 7/8 | 9/16 | 1 25/32 | .95 | 807 |
| 807A | 1 1/8 | ..... | 7/8 | ..... | 3/4 | 9 7/8 | 9/16 | 1 25/32 | .95 | 807A |
| 808 | 1 1/4 | 3/4 | ..... | 7/8 | ..... | 11 1/2 | 9/16 | 2 1/16 | 1.4 | 808 |
| 808A | 1 5/16 | ..... | 1 | ..... | 7/8 | 11 1/2 | 9/16 | 2 1/16 | 1.4 | 808A |
| 809 | 1 7/16 | 7/8 | ..... | 1 | ..... | 13 3/8 | 21/32 | 2 3/8 | 2. | 809 |
| 809A | 1 1/2 | ..... | 1 1/8 | ..... | 1 | 13 3/8 | 21/32 | 2 3/8 | 2. | 809A |
| 810 | 1 5/8 | 1 | ..... | 1 1/8 | ..... | 15 1/4 | 3/4 | 2 5/8 | 2.9 | 810 |
| 810A | 1 11/16 | ..... | 1 1/4 | ..... | 1 1/8 | 15 1/4 | 3/4 | 2 5/8 | 2.9 | 810A |
| 811 | 1 13/16 | 1 1/8 | ..... | 1 1/4 | ..... | 17 1/8 | 13/16 | 2 29/32 | 3.1 | 811 |
| 811A | 1 7/8 | ..... | ..... | ..... | 1 1/4 | 17 1/8 | 13/16 | 2 29/32 | 3.1 | 811A |
| 812 | 2 | 1 1/4 | ..... | 1 3/8 | ..... | 19 | 15/16 | 3 1/4 | 4.3 | 812 |
| 813 | 2 3/16 | 1 3/8 | ..... | 1 1/2 | ..... | 21 | 1 | 3 31/64 | 5.8 | 813 |
| 813A | 2 1/4 | ..... | ..... | ..... | 1 1/2 | 21 | 1 | 3 31/64 | 5.8 | 813A |
| 814 | 2 3/8 | 1 1/2 | ..... | ..... | ..... | 23 | 1 1/16 | 3 23/32 | 7.3 | 814 |
| 815 | 2 9/16 | 1 5/8 | ..... | ..... | ..... | 25 | 1 1/8 | 4 3/32 | 8.9 | 815 |
| 815A | 2 5/8 | ..... | ..... | ..... | 1 3/4 | 25 | 1 1/8 | 4 3/32 | 8.9 | 815A |
| 816 | 2 3/4 | 1 3/4 | ..... | ..... | ..... | 27 | 1 1/4 | 4 9/16 | 11.9 | 816 |
| 817A | 3 | ..... | ..... | ..... | 2 | 30 | 1 3/8 | 4 53/64 | 16.2 | 817A |
| 817 | 3 1/8 | 2 | ..... | ..... | ..... | 30 | 1 3/8 | 4 53/64 | 16.2 | 817 |

♦ REGISTERED TRADE MARK

(Alloy Steel Wrenches, page 43)

1-52

WILLIAMS' ♦“SUPERIOR” HEX-BOX WRENCHES
(Carbon Steel)

REGULAR PATTERN—15° Angle
(Continued)

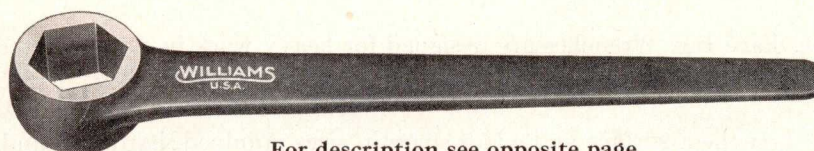
The following long Wrenches have hole of size given below in end of handle:

| | | | | | | | | | | |
|-------------|------------|-------------|------------|-------------|------------|-------------|--------------|-------------|------------|-------------|
| Number, | 817 | 817A | 818 | 818A | 819 | 819A | 819AC | 819B | 820 | 820B |
| Hole; diam. | 5/8 | 5/8 | 3/4 | 3/4 | 7/8 | 7/8 | 7/8 | 7/8 | 1 | 1 inch |

| No. | Nominal Opening Across Flats | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. REGULAR Nut | Extreme Length, Approx. | Head | | Weight Each, Lbs. | No. |
|--------------|---------------------------------------|---|---------------------------------|-------------------------------|----------------|------------------|-------------------------|--------------|
| | | | | | Thick- ness | Outside Diam. | | |
| 818A | 3 3/8 | ..... | 2 1/4 | 34 | 1 1/2 | 5 1/4 | 20.3 | 818A |
| 818 | 3 1/2 | 2 1/4 | ..... | 34 | 1 1/2 | 5 1/4 | 20.3 | 818 |
| 819B | 3 3/4 | ..... | 2 1/2 | 38 | 1 5/8 | 5 7/8 | 24.6 | 819B |
| 819 | 3 7/8 | 2 1/2 | ..... | 38 | 1 5/8 | 5 7/8 | 24.5 | 819 |
| 819AC | 4 1/8 | ..... | 2 3/4 | 42 | 1 3/4 | 6 1/2 | 34.8 | 819AC |
| 819A | 4 1/4 | 2 3/4 | ..... | 42 | 1 3/4 | 6 1/2 | 34.5 | 819A |
| 820B | 4 1/2 | ..... | 3 | 46 | 1 7/8 | 7 | 41.5 | 820B |
| 820 | 4 5/8 | 3 | ..... | 46 | 1 7/8 | 7 | 41.5 | 820 |

WILLIAMS' ♦“SUPERIOR” HEX-BOX WRENCHES
(Carbon Steel)

HEAVY PATTERN — 15° Angle



For description see opposite page

| No. | Nominal Opening Across Flats | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Hd. Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGLR. Nut | Extreme Length, Approx. | Head | | Weight Each, Lbs. | No. |
|--------------|---------------------------------------|---|--|---|--------------------------------|-------------------------------|----------------|------------------|-------------------------|--------------|
| | | | | | | | Thick- ness | Outside Diam. | | |
| H808 | 1 1/4 | 3/4 | ..... | 7/8 | ..... | 11 1/2 | 13/16 | 2 1/16 | 1.6 | H808 |
| H808A | 1 5/16 | ..... | 1 | ..... | 7/8 | 11 1/2 | 13/16 | 2 1/16 | 1.6 | H808A |
| H809 | 1 7/16 | 7/8 | ..... | 1 | ..... | 13 3/8 | 15/16 | 2 3/8 | 2.5 | H809 |
| H809A | 1 1/2 | ..... | 1 1/8 | ..... | 1 | 13 3/8 | 15/16 | 2 3/8 | 2.5 | H809A |
| H810 | 1 5/8 | 1 | ..... | 1 1/8 | ..... | 15 1/4 | 1 1/8 | 2 5/8 | 3.1 | H810 |
| H810A | 1 11/16 | ..... | 1 1/4 | ..... | 1 1/8 | 15 1/4 | 1 1/8 | 2 5/8 | 3.1 | H810A |
| H811 | 1 13/16 | 1 1/8 | ..... | 1 1/4 | ..... | 17 | 1 1/4 | 2 15/16 | 3.8 | H811 |
| H811A | 1 7/8 | ..... | ..... | ..... | 1 1/4 | 17 | 1 1/4 | 2 15/16 | 3.8 | H811A |
| H812 | 2 | 1 1/4 | ..... | 1 3/8 | ..... | 19 | 1 3/8 | 3 1/4 | 5.2 | H812 |
| H813 | 2 3/16 | 1 3/8 | ..... | 1 1/2 | ..... | 21 | 1 1/2 | 3 1/2 | 6.5 | H813 |
| H813A | 2 1/4 | ..... | ..... | ..... | 1 1/2 | 21 | 1 1/2 | 3 1/2 | 6.5 | H813A |
| H814 | 2 3/8 | 1 1/2 | ..... | ..... | ..... | 23 | 1 5/8 | 3 3/4 | 6.3 | H814 |
| H815 | 2 9/16 | 1 5/8 | ..... | ..... | ..... | 25 | 1 3/4 | 4 1/8 | 10.3 | H815 |
| H815A | 2 5/8 | ..... | ..... | ..... | 1 3/4 | 25 | 1 3/4 | 4 1/8 | 10.3 | H815A |
| H816 | 2 3/4 | 1 3/4 | ..... | ..... | ..... | 27 | 1 7/8 | 4 9/16 | 13.8 | H816 |
| H817A | 3 | ..... | ..... | ..... | 2 | 30 | 2 | 4 13/16 | 17.9 | H817A |
| H817 | 3 1/8 | 2 | ..... | ..... | ..... | 30 | 2 | 4 13/16 | 17.9 | H817 |

♦ REGISTERED TRADE MARK

(Alloy Steel Wrenches, pages 43 and 44)

WILLIAMS' ♦"SUPERIOR" HEX-BOX WRENCHES
(Carbon Steel)

STRIKING FACE PATTERN — 15° Angle



These Striking Face Box Wrenches are designed for heavy work in close quarters where large nuts must be set up tight, or frozen nuts loosened.

Wrenches are broached, surface and edges smooth, sizes stamped, hardened and black enameled (baked on)—heads bright.

| No. | Nominal Opening Across Flats | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGULAR Nut | Ex- treme Length Approx. | Head | | Wgt. Each, Lbs. |
|----------|---------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|------------------------------|-----------------------------------|----------------|------------------|-----------------------|
| | | | | | | | Thick- ness | Outside Diam. | |
| SF-818A | 3 3/8 | ..... | ..... | ..... | 2 1/4 | 18 | 1 1/2 | 5 1/4 | 19.3 |
| SF-818 | 3 1/2 | 2 1/4 | ..... | ..... | ..... | 18 | 1 1/2 | 5 1/4 | 18.8 |
| SF-819B | 3 3/4 | ..... | ..... | ..... | 2 1/2 | 19 | 1 5/8 | 5 7/8 | 23.6 |
| SF-819 | 3 7/8 | 2 1/2 | ..... | ..... | ..... | 19 | 1 5/8 | 5 7/8 | 23.6 |
| SF-819AC | 4 1/8 | ..... | ..... | ..... | 2 3/4 | 20 | 1 3/4 | 6 1/2 | 25.3 |
| SF-819A | 4 1/4 | 2 3/4 | ..... | ..... | ..... | 20 | 1 3/4 | 6 1/2 | 25.3 |
| SF-820B | 4 1/2 | ..... | ..... | ..... | 3 | 21 | 1 7/8 | 7 | 29.5 |
| SF-820 | 4 5/8 | 3 | ..... | ..... | ..... | 21 | 1 7/8 | 7 | 29.5 |

♦ REGISTERED TRADE MARK

(Alloy Steel Wrenches, pages 46 and 47)

1-52

WILLIAMS' ♦ "SUPERIOR" SQUARE BOX WRENCHES
(Carbon Steel)

22-1/2° Angle, Single Head

For Set Screws, Square Cap Screws and Nuts



These Wrenches are broached, surface and edges smooth, sizes stamped, hardened and black enameled (baked on)—heads bright.

These Wrenches can also be furnished, to order, with 8-point openings.

| No. | Nominal Opening | For Set Screw; Size | For Square Head Cap Screw | Amer. Std. REGLR. Square Nut | Extreme Length, Approx. | Head | | Weight Each, Lbs. | No. |
|-----|-----------------|---------------------|---------------------------|------------------------------|-------------------------|-----------|---------------|-------------------|-----|
| | | | | | | Thickness | Outside Diam. | | |
| 580 | 3/16 | 3/16 | ..... | ..... | 3 | 1/4 | 1/2 | .05 | 580 |
| 581 | 1/4 | 1/4 | ..... | ..... | 3 3/8 | 9/32 | 5/8 | .08 | 581 |
| 582 | 5/16 | 5/16 | ..... | ..... | 3 3/4 | 5/16 | 11/16 | .11 | 582 |
| 583 | 3/8 | 3/8 | 1/4 | ..... | 4 1/4 | 3/8 | 27/32 | .17 | 583 |
| 584 | 7/16 | 7/16 | 5/16 | 1/4 | 4 7/8 | 7/16 | 31/32 | .25 | 584 |
| 585 | 1/2 | 1/2 | 3/8 | ..... | 5 1/2 | 15/32 | 1 1/16 | .33 | 585 |
| 586 | 9/16 | 9/16 | 7/16 | 5/16 | 6 1/4 | 1/2 | 1 3/16 | .42 | 586 |
| 587 | 5/8 | 5/8 | 1/2 | 3/8 | 7 | 9/16 | 1 5/16 | .61 | 587 |
| 588 | 3/4 | 3/4 | 5/8 | 7/16 | 8 | 5/8 | 1 9/16 | .83 | 588 |
| 589 | 7/8 | 7/8 | 3/4 | 9/16 | 9 | 11/16 | 1 25/32 | 1.2 | 589 |
| 590 | 1 | 1 | ..... | 5/8 | 10 | 3/4 | 2 | 1.6 | 590 |

♦ REGISTERED TRADE MARK

WILLIAMS' ♦"SUPERIOR" SET SCREW WRENCHES
(Carbon Steel)

22 1/2° Angle, Single Head

For Set Screws, Square Cap Screws and Nuts



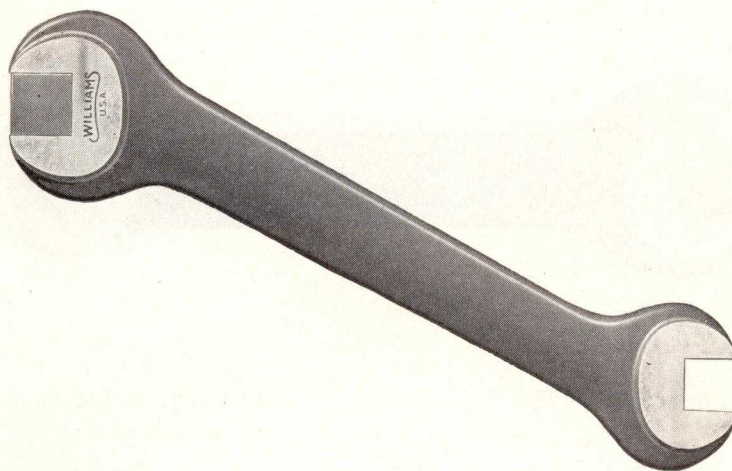
These Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened, black enameled (baked on)—heads bright.

| No. | Nominal Opening | For Set Screw; Size | For Square Head Cap Screw | For Amer. Std. REGULAR Square Nut | Extreme Length, Approx. | Thickness Head | Weight Each, Lbs. | No. |
|-----|-----------------|---------------------|---------------------------|-----------------------------------|-------------------------|----------------|-------------------|-----|
| 500 | 3/16 | 3/16 | ..... | ..... | 3 | 3/16 | .04 | 500 |
| 501 | 1/4 | 1/4 | ..... | ..... | 3 1/2 | 1/4 | .09 | 501 |
| 502 | 5/16 | 5/16 | ..... | ..... | 4 1/4 | 5/16 | .16 | 502 |
| 503 | 3/8 | 3/8 | 1/4 | ..... | 5 | 11/32 | .25 | 503 |
| 504 | 7/16 | 7/16 | 5/16 | 1/4 | 5 3/4 | 3/8 | .36 | 504 |
| 505 | 1/2 | 1/2 | 3/8 | ..... | 6 5/8 | 7/16 | .50 | 505 |
| 506 | 9/16 | 9/16 | 7/16 | 5/16 | 7 1/2 | 1/2 | .75 | 506 |
| 507 | 5/8 | 5/8 | 1/2 | 3/8 | 8 1/2 | 9/16 | .89 | 507 |
| 508 | 3/4 | 3/4 | 5/8 | 7/16 | 9 1/2 | 5/8 | 1.3 | 508 |
| 509 | 7/8 | 7/8 | 3/4 | 9/16 | 10 1/2 | 11/16 | 1.5 | 509 |
| 510 | 1 | 1 | ..... | 5/8 | 11 1/2 | 3/4 | 2.1 | 510 |
| 511 | 1 1/8 | 1 1/8 | 7/8 | 3/4 | 12 1/2 | 13/16 | 2.5 | 511 |

WILLIAMS' ♦"SUPERIOR" SET SCREW WRENCHES
(Carbon Steel)

22 1/2° Angle, Double Head

For Set Screws, Square Cap Screws and Nuts



These Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

| No. | Nominal Openings | For Set Screws; Size | For Square Head Cap Screws; Diam. Screws | For Amer. Std. REGULAR Square Nuts | Ex- treme Length, Approx. | Thick- ness Heads | Weight Each, Lbs. | No. |
|-----|------------------|----------------------|--|------------------------------------|------------------------------|----------------------|-------------------|-----|
| 523 | 3/16 & 1/4 | 3/16 & 1/4 | ..... | ..... | 3 1/2 | 7/32 | .06 | 523 |
| 524 | 3/16 & 5/16 | 3/16 & 5/16 | ..... | ..... | 4 1/4 | 9/32 | .13 | 524 |
| 525 | 1/4 & 5/16 | 1/4 & 5/16 | ..... | ..... | 4 1/4 | 9/32 | .14 | 525 |
| 526 | 1/4 & 3/8 | 1/4 & 3/8 | 1/4 | ..... | 5 | 11/32 | .20 | 526 |
| 527 | 5/16 & 3/8 | 5/16 & 3/8 | 1/4 | ..... | 5 | 11/32 | .23 | 527 |
| 529 | 3/8 & 7/16 | 3/8 & 7/16 | 1/4 & 5/16 | 1/4 | 5 3/4 | 3/8 | .33 | 529 |
| 530 | 3/8 & 1/2 | 3/8 & 1/2 | 1/4 & 3/8 | ..... | 6 5/8 | 7/16 | .53 | 530 |
| 531 | 7/16 & 1/2 | 7/16 & 1/2 | 5/16 & 3/8 | 1/4 | 6 5/8 | 7/16 | .50 | 531 |
| 533 | 1/2 & 9/16 | 1/2 & 9/16 | 3/8 & 7/16 | 5/16 | 7 1/2 | 1/2 | .71 | 533 |
| 534 | 1/2 & 5/8 | 1/2 & 5/8 | 3/8 & 1/2 | 3/8 | 8 1/2 | 9/16 | 1. | 534 |
| 535 | 9/16 & 5/8 | 9/16 & 5/8 | 7/16 & 1/2 | 5/16 & 3/8 | 8 1/2 | 9/16 | .95 | 535 |
| 537 | 5/8 & 3/4 | 5/8 & 3/4 | 1/2 & 5/8 | 3/8 & 7/16 | 9 3/4 | 5/8 | 1.5 | 537 |
| 539 | 3/4 & 7/8 | 3/4 & 7/8 | 5/8 & 3/4 | 7/16 & 9/16 | 11 | 11/16 | 1.8 | 539 |
| 541 | 7/8 & 1 | 7/8 & 1 | 3/4 | 9/16 & 5/8 | 12 1/2 | 3/4 | 2.6 | 541 |
| 543 | 1 & 1 1/8 | 1 & 1 1/8 | 7/8 | 5/8 & 3/4 | 14 | 13/16 | 3.6 | 543 |

WILLIAMS' ♦ "SUPERIOR" TOOL POST WRENCHES
(Carbon Steel)

For Set Screws

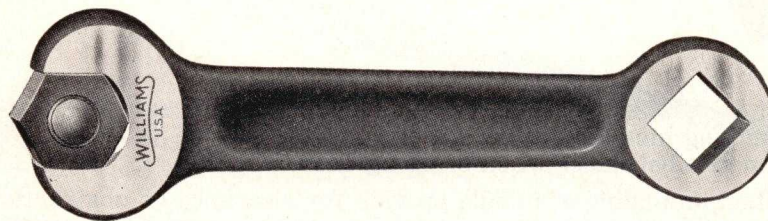


These Wrenches are milled and broached, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

| No. | Open End for Set Screw; Size | Closed End for Set Screw; Size | Extreme Length, Approx. | Thickness Heads | Weight Each, Lbs. | No. |
|------|---------------------------------------|---|-------------------------------|--------------------|-------------------------|------|
| 554 | 7/16 | 7/16 | 5 1/2 | 1/2 | .45 | 554 |
| 555 | 1/2 | 1/2 | 6 | 9/16 | .56 | 555 |
| 555B | 9/16 | 1/2 | 6 | 9/16 | .56 | 555B |
| 555C | 9/16 | 9/16 | 6 | 9/16 | .56 | 555C |
| 556 | 5/8 | 5/8 | 7 | 5/8 | .80 | 556 |
| 556B | 11/16 | 5/8 | 7 | 5/8 | .80 | 556B |
| 556C | 11/16 | 11/16 | 7 | 5/8 | .80 | 556C |
| 557 | 3/4 | 3/4 | 7 5/8 | 11/16 | .94 | 557 |

WILLIAMS' ♦ "SUPERIOR" TOOL POST WRENCHES
(Carbon Steel)

For Nuts and Set Screws



These Wrenches are milled and broached, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

Whitworth Standard sizes, see page 214.

| No. | Open End Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. REGULAR Nut Size Bolt | Closed End for Set Screw; Size | Extreme Length, Approx. | Thickness Heads | Weight Each, Lbs. | No. |
|------|--------------------------------|--|---|---|-------------------------------|--------------------|-------------------------|------|
| 562B | 5/8 | ..... | 3/8 | 9/16 | 6 1/2 | 1/2 | .72 | 562B |
| 562 | 11/16 | 3/8 | ..... | 9/16 | 6 1/2 | 1/2 | .72 | 562 |
| 563E | 13/16 | ..... | 1/2 | 7/16 | 7 | 9/16 | .84 | 563E |
| 563F | 13/16 | ..... | 1/2 | 1/2 | 7 | 9/16 | .84 | 563F |
| 563G | 13/16 | ..... | 1/2 | 9/16 | 7 | 9/16 | .84 | 563G |
| 563H | 13/16 | ..... | 1/2 | 5/8 | 7 | 9/16 | .84 | 563H |
| 563 | 7/8 | 1/2 | 9/16 | 7/16 | 7 | 9/16 | .84 | 563 |
| 563B | 7/8 | 1/2 | 9/16 | 1/2 | 7 | 9/16 | .84 | 563B |
| 563C | 7/8 | 1/2 | 9/16 | 9/16 | 7 | 9/16 | .84 | 563C |
| 563D | 7/8 | 1/2 | 9/16 | 5/8 | 7 | 9/16 | .84 | 563D |
| 564C | 1 | ..... | 5/8 | 5/8 | 7 1/2 | 5/8 | 1.1 | 564C |
| 564 | 1 1/16 | 5/8 | ..... | 5/8 | 7 1/2 | 5/8 | 1.1 | 564 |
| 565C | 1 | ..... | 5/8 | 3/4 | 8 | 5/8 | 1.2 | 565C |
| 565 | 1 1/16 | 5/8 | ..... | 3/4 | 8 | 5/8 | 1.2 | 565 |
| 566C | 1 1/8 | ..... | 3/4 | 3/4 | 9 1/4 | 3/4 | 1.6 | 566C |
| 566D | 1 1/8 | ..... | 3/4 | 7/8 | 9 1/4 | 3/4 | 1.6 | 566D |
| 566 | 1 1/4 | 3/4 | ..... | 3/4 | 9 1/4 | 3/4 | 1.6 | 566 |
| 566B | 1 1/4 | 3/4 | ..... | 7/8 | 9 1/4 | 3/4 | 1.6 | 566B |
| 567D | 1 1/8 | ..... | 3/4 | 1 | 10 | 7/8 | 2.5 | 567D |
| 567 | 1 1/4 | 3/4 | ..... | 1 | 10 | 7/8 | 2.5 | 567 |
| 567E | 1 5/16 | ..... | 7/8 | 7/8 | 10 | 7/8 | 2.5 | 567E |
| 567F | 1 5/16 | ..... | 7/8 | 1 | 10 | 7/8 | 2.5 | 567F |
| 567B | 1 7/16 | 7/8 | ..... | 7/8 | 10 | 7/8 | 2.5 | 567B |
| 567C | 1 7/16 | 7/8 | ..... | 1 | 10 | 7/8 | 2.5 | 567C |
| 568E | 1 1/2 | ..... | 1 | 7/8 | 11 | 15/16 | 3.3 | 568E |
| 568F | 1 1/2 | ..... | 1 | 1 | 11 | 15/16 | 3.3 | 568F |
| 568 | 1 5/8 | 1 | ..... | 7/8 | 11 | 15/16 | 3.3 | 568 |
| 568B | 1 5/8 | 1 | ..... | 1 | 11 | 15/16 | 3.3 | 568B |
| 568G | 1 11/16 | ..... | 1 1/8 | 1 | 11 | 15/16 | 3.3 | 568G |
| 568H | 1 7/8 | ..... | 1 1/4 | 1 | 11 | 15/16 | 3.3 | 568H |
| 568C | 1 13/16 | 1 1/8 | ..... | 1 | 11 | 15/16 | 3.3 | 568C |
| 568D | 2 | 1 1/4 | ..... | 1 | 11 | 15/16 | 3.3 | 568D |

WILLIAMS' ♦"SUPERIOR" STRUCTURAL WRENCHES
(Carbon Steel)

Straight Opening



The jaws of these Wrenches are narrow and long, providing substantially full bearing on square nuts. The long handle is round for the greater part of its length, with tapered end for easy insertion into bolt holes when bringing them into line.

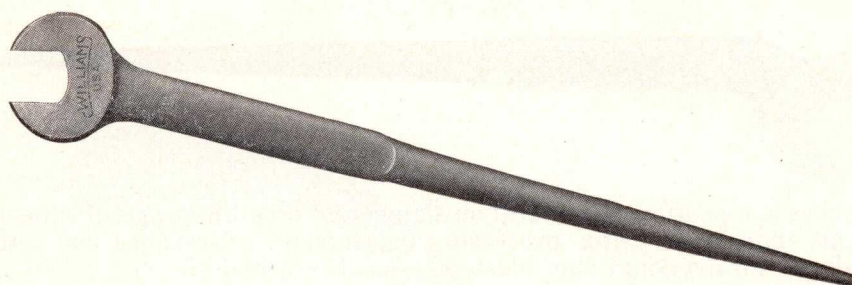
The abrupt offset and angle of handle provide for clearance of obstructions, even when these are close to the head, and safety to the operator's hands. The wrench is particularly well balanced. When thrust into slit of scabbard or belt-loop the "step-up" of the round above the flat part of handle acts as a stop. It retains the wrench, yet allows its ready release.

Milled, sizes stamped, hardened all over and shot-blasted — heads not bright. Whitworth Standard sizes, see page 214.

| No. | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. REGLR. Nut; Size Bolt | Extreme Length, Approx. | Thick-ness Head | Handle Offset | | Weight Each, Lbs. | No. |
|------|-----------------|--|----------------------------------|-------------------------|-----------------|---------------|---------|-------------------|------|
| | | | | | | At Head | At End | | |
| 901A | 7/16 | ..... | 1/4 | 9 1/2 | 11/32 | 13/16 | 1 1/2 | .33 | 901A |
| 901 | 1/2 | 1/4 | ..... | 9 1/2 | 11/32 | 13/16 | 1 1/2 | .33 | 901 |
| 901B | 9/16 | ..... | 5/16 | 9 1/2 | 11/32 | 13/16 | 1 1/2 | .33 | 901B |
| 902 | 19/32 | 5/16 | ..... | 9 1/2 | 11/32 | 13/16 | 1 1/2 | .33 | 902 |
| 903A | 5/8 | ..... | 3/8 | 12 | 7/16 | 7/8 | 1 11/16 | .63 | 903A |
| 903 | 11/16 | 3/8 | ..... | 12 | 7/16 | 7/8 | 1 11/16 | .63 | 903 |
| 904A | 3/4 | ..... | 7/16 | 12 | 7/16 | 7/8 | 1 11/16 | .61 | 904A |
| 904 | 25/32 | 7/16 | ..... | 12 | 7/16 | 7/8 | 1 11/16 | .61 | 904 |
| 905A | 13/16 | ..... | 1/2 | 14 1/2 | 17/32 | 1 | 1 7/8 | 1.2 | 905A |
| 905 | 7/8 | 1/2 | 9/16 | 14 1/2 | 17/32 | 1 | 1 7/8 | 1.2 | 905 |
| 906 | 15/16 | 9/16 | ..... | 14 1/2 | 17/32 | 1 | 1 7/8 | 1.2 | 906 |
| 906B | 1 | ..... | 5/8 | 14 1/2 | 17/32 | 1 | 1 7/8 | 1.2 | 906B |
| 907 | 1 1/16 | 5/8 | ..... | 17 | 5/8 | 1 1/8 | 2 3/8 | 1.9 | 907 |
| 907A | 1 1/8 | ..... | 3/4 | 17 | 5/8 | 1 1/8 | 2 3/8 | 1.9 | 907A |
| 908 | 1 1/4 | 3/4 | ..... | 19 | 11/16 | 1 1/4 | 2 3/4 | 2.9 | 908 |
| 908A | 1 5/16 | ..... | 7/8 | 19 | 11/16 | 1 1/4 | 2 3/4 | 2.9 | 908A |
| 909 | 1 7/16 | 7/8 | ..... | 21 | 3/4 | 1 3/8 | 3 1/16 | 4. | 909 |
| 909A | 1 1/2 | ..... | 1 | 21 | 3/4 | 1 3/8 | 3 1/16 | 4. | 909A |
| 910 | 1 5/8 | 1 | ..... | 23 | 13/16 | 1 1/2 | 3 3/8 | 5.3 | 910 |
| 910A | 1 11/16 | ..... | 1 1/8 | 23 | 13/16 | 1 1/2 | 3 3/8 | 5.3 | 910A |
| 911 | 1 13/16 | 1 1/8 | ..... | 25 | 7/8 | 1 5/8 | 3 11/16 | 7.4 | 911 |
| 911A | 1 7/8 | ..... | 1 1/4 | 25 | 7/8 | 1 5/8 | 3 11/16 | 7.4 | 911A |
| 912 | 2 | 1 1/4 | ..... | 25 | 7/8 | 1 5/8 | 3 11/16 | 7.4 | 912 |

WILLIAMS' ♦ "SUPERIOR" CONSTRUCTION WRENCHES
(Carbon Steel)

15° Angle



These Wrenches with deep opening provide substantial bearing on square nuts. The long handle is round for the greater part of its length, with tapered end for easy insertion into bolt holes when bringing them into line.

Milled, sizes stamped, hardened all over and shot-blasted — heads not bright.

Whitworth Standard sizes, see page 214.

| No. | Nominal Opening | For Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Amer. Std. REGULAR Nut Size Bolt | Extreme Length, Approx. | Thickness Head | Weight Each, Lbs. | No. |
|------|-----------------|--|--------------------------------------|-------------------------|----------------|-------------------|------|
| 201A | 7/16 | ..... | 1/4 | 9 1/2 | 3/8 | .27 | 201A |
| 201 | 1/2 | 1/4 | ..... | 9 1/2 | 3/8 | .27 | 201 |
| 201B | 9/16 | ..... | 5/16 | 9 1/2 | 3/8 | .27 | 201B |
| 202 | 19/32 | 5/16 | ..... | 9 1/2 | 3/8 | .27 | 202 |
| 203A | 5/8 | ..... | 3/8 | 12 | 7/16 | .53 | 203A |
| 203 | 11/16 | 3/8 | ..... | 12 | 7/16 | .53 | 203 |
| 204A | 3/4 | ..... | 7/16 | 12 | 7/16 | .50 | 204A |
| 204 | 25/32 | 7/16 | ..... | 12 | 7/16 | .50 | 204 |
| 205A | 13/16 | ..... | 1/2 | 14 1/2 | 17/32 | 1. | 205A |
| 205 | 7/8 | 1/2 | 9/16 | 14 1/2 | 17/32 | 1. | 205 |
| 206 | 15/16 | 9/16 | ..... | 14 1/2 | 17/32 | 1. | 206 |
| 206B | 1 | ..... | 5/8 | 14 1/2 | 17/32 | 1. | 206B |
| 207 | 1 1/16 | 5/8 | ..... | 17 | 5/8 | 1.7 | 207 |
| 207A | 1 1/8 | ..... | 3/4 | 17 | 5/8 | 1.7 | 207A |
| 208 | 1 1/4 | 3/4 | ..... | 19 | 11/16 | 2.6 | 208 |
| 208A | 1 5/16 | ..... | 7/8 | 19 | 11/16 | 2.6 | 208A |
| 209 | 1 7/16 | 7/8 | ..... | 21 | 3/4 | 3.7 | 209 |
| 209A | 1 1/2 | ..... | 1 | 21 | 3/4 | 3.7 | 209A |
| 210 | 1 5/8 | 1 | ..... | 23 | 27/32 | 5.3 | 210 |
| 210A | 1 11/16 | ..... | 1 1/8 | 23 | 27/32 | 5.2 | 210A |
| 211 | 1 13/16 | 1 1/8 | ..... | 25 | 15/16 | 7.3 | 211 |
| 211A | 1 7/8 | ..... | 1 1/4 | 25 | 15/16 | 7.2 | 211A |
| 212 | 2 | 1 1/4 | ..... | 25 | 15/16 | 7.3 | 212 |

WILLIAMS' "SUPERIOR" CONSTRUCTION WRENCHES
(Carbon Steel)

15° Angle
45° BENT HANDLE



These wrenches are particularly useful on flange and pipe line work in refineries, chemical plants and industries using processing equipment. Wrenches are milled, sizes stamped, hardened all over and shot-blasted — heads not bright.

| No. | Nominal Opening | For U. S. Std. Nut; Size Bolt | For S.A.E. Std. Nut and Cap Screw | For Amer. Std. Reg. Nut; Size Bolt | Extreme Length, Approx. | Weight Each, Lbs. |
|-------|-----------------|-------------------------------|-----------------------------------|------------------------------------|-------------------------|-------------------|
| X-205 | 7/8 | 1/2 | 9/16 | 9/16 | 14 | 1. |
| X-207 | 1 1/16 | 5/8 | 3/4 | ..... | 16 1/2 | 1.7 |
| X-208 | 1 1/4 | 3/4 | 7/8 | ..... | 18 1/2 | 2.6 |
| X-209 | 1 7/16 | 7/8 | 1 | ..... | 20 3/8 | 3.7 |
| X-210 | 1 5/8 | 1 | 1 1/8 | ..... | 22 1/4 | 5.3 |
| X-211 | 1 13/16 | 1 1/8 | 1 1/4 | ..... | 24 | 7.3 |
| X-212 | 2 | 1 1/4 | 1 3/8 | ..... | 24 | 7.3 |

WILLIAMS' "SUPERIOR" CONSTRUCTION WRENCHES
(Carbon Steel)

15° Angle
90° BENT HANDLE



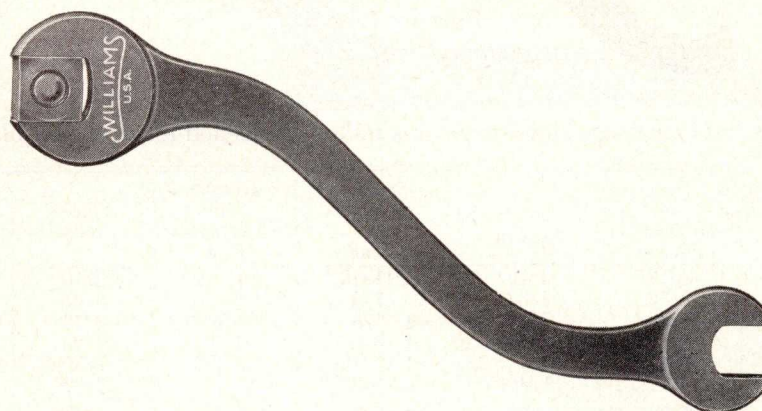
Wrenches are milled, sizes stamped, hardened all over and shot-blasted — heads not bright.

| No. | Nominal Opening | For U. S. Std. Nut; Size Bolt | For S.A.E. Std. Nut and Cap Screw | For Amer. Std. Reg. Nut; Size Bolt | Extreme Length, Approx. | Weight Each, Lbs. |
|-------|-----------------|-------------------------------|-----------------------------------|------------------------------------|-------------------------|-------------------|
| Z-205 | 7/8 | 1/2 | 9/16 | 9/16 | 12 | 1. |
| Z-207 | 1 1/16 | 5/8 | 3/4 | ..... | 14 5/8 | 1.7 |
| Z-208 | 1 1/4 | 3/4 | 7/8 | ..... | 16 3/8 | 2.6 |
| Z-209 | 1 7/16 | 7/8 | 1 | ..... | 17 7/8 | 3.7 |
| Z-210 | 1 5/8 | 1 | 1 1/8 | ..... | 19 1/2 | 5.3 |
| Z-211 | 1 13/16 | 1 1/8 | 1 1/4 | ..... | 21 | 7.3 |
| Z-212 | 2 | 1 1/4 | 1 3/8 | ..... | 21 | 7.3 |

WILLIAMS' ♦ "SUPERIOR" HEAVY "S" OR CAR WRENCHES
(Carbon Steel)

22 1/2° Angle, Double Head

Long Leverage



These Wrenches are milled, sizes stamped, hardened all over, shot-blasted — heads not bright.

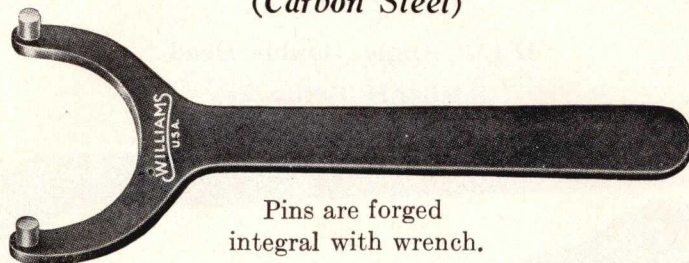
| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | Amer. Std. REGULAR Nuts; Size Bolts | Ex- treme Length, Approx. | Weight Each, Lbs. | No. |
|-------|---------------------|--|---|------------------------------------|-------------------------|-------|
| 367A | 5/8 & 13/16 | ..... | 3/8 & 1/2 | 12 | 1.4 | 367A |
| 367 | 11/16 & 7/8 | 3/8 & 1/2 | 9/16 | 12 | 1.4 | 367 |
| 370C | 13/16 & 7/8 | 1/2 | 1/2 & 9/16 | 19 | 2.7 | 370C |
| 370A | 13/16 & 1 | ..... | 1/2 & 5/8 | 19 | 2.6 | 370A |
| 370 | 7/8 & 1 1/16 | 1/2 & 5/8 | 9/16 | 19 | 2.6 | 370 |
| 370B | 1 & 1 1/8 | ..... | 5/8 & 3/4 | 19 | 2.5 | 370B |
| *372A | 1 1/16 & 1 1/4 | 5/8 & 3/4 | ..... | 20 | 3.3 | *372A |
| 373 | 1 1/8 & 1 5/16 | ..... | 3/4 & 7/8 | 20 | 3.1 | 373 |
| 376A | 1 1/4 & 1 7/16 | 3/4 & 7/8 | ..... | 21 | 4.2 | 376A |
| 376 | 1 5/16 & 1 1/2 | ..... | 7/8 & 1 | 21 | 4. | 376 |
| †378A | 1 7/16 & 1 5/8 | 7/8 & 1 | ..... | 22 | 4.9 | †378A |
| 379 | 1 1/2 & 1 11/16 | ..... | 1 & 1 1/8 | 22 | 4.7 | 379 |
| 382A | 1 5/8 & 1 13/16 | 1 & 1 1/8 | ..... | 23 | 6.3 | 382A |
| 382 | 1 11/16 & 1 7/8 | ..... | 1 1/8 & 1 1/4 | 23 | 6.1 | 382 |
| 383B | 1 7/8 & 2 1/4 | ..... | 1 1/4 & 1 1/2 | 24 | 6.5 | 383B |
| 385 | 1 13/16 & 2 | 1 1/8 & 1 1/4 | ..... | 24 | 6.7 | 385 |
| 389 | 2 & 2 3/8 | 1 1/4 & 1 1/2 | ..... | 25 | 9.6 | 389 |
| 389B | 2 3/16 & 2 3/8 | 1 3/8 & 1 1/2 | ..... | 25 | 9.4 | 389B |

* No. 372A supersedes Old No. 373 previously listed for 5/8 & 3/4" U. S. Nuts.

† No. 378A supersedes Old No. 379 previously listed for 7/8 & 1" U. S. Nuts.

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERIOR" FACE SPANNERS
(Carbon Steel)

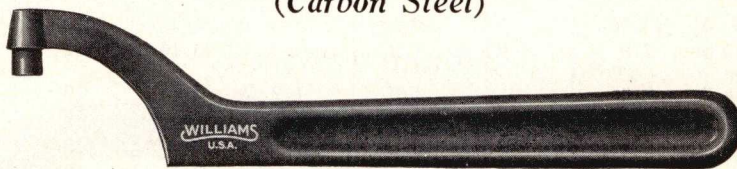


Pins are forged
integral with wrench.

These wrenches have surfaces smoothed, pins milled, hardened all over and black enameled.

| No. | Pins | | | Span of Jaws in Clear | Length from C. of Pins | Thick- ness | Weight Each, Lbs. | No. |
|-----|--------------------|--------------------|--------|--------------------------------|---------------------------------|----------------|-------------------------|-----|
| | Distance C to C | Diameter Milled | Length | | | | | |
| 418 | 1 | 3/16 | 3/16 | 11/16 | 4 1/2 | 3/16 | .13 | 418 |
| 420 | 1 1/4 | 7/32 | 7/32 | 7/8 | 5 | 3/16 | .17 | 420 |
| 422 | 1 1/2 | 7/32 | 7/32 | 1 1/8 | 5 1/2 | 3/16 | .20 | 422 |
| 424 | 1 3/4 | 7/32 | 7/32 | 1 3/8 | 6 | 7/32 | .28 | 424 |
| 426 | 2 | 1/4 | 1/4 | 1 19/32 | 6 1/2 | 7/32 | .30 | 426 |
| 428 | 2 1/4 | 1/4 | 1/4 | 1 27/32 | 7 | 7/32 | .42 | 428 |
| 430 | 2 1/2 | 9/32 | 9/32 | 2 1/32 | 7 1/2 | 1/4 | .52 | 430 |
| 432 | 2 3/4 | 9/32 | 9/32 | 2 9/32 | 8 | 1/4 | .59 | 432 |
| 434 | 3 | 5/16 | 5/16 | 2 1/2 | 8 1/2 | 1/4 | .70 | 434 |
| 436 | 3 1/4 | 5/16 | 5/16 | 2 3/4 | 9 1/8 | 1/4 | .82 | 436 |
| 438 | 3 1/2 | 5/16 | 5/16 | 3 | 9 3/4 | 1/4 | .89 | 438 |
| 440 | 3 3/4 | 3/8 | 3/8 | 3 3/16 | 10 3/8 | 1/4 | 1. | 440 |
| 442 | 4 | 3/8 | 3/8 | 3 7/16 | 11 | 1/4 | 1.1 | 442 |

WILLIAMS' ♦ "SUPERIOR" PIN SPANNERS
(Carbon Steel)



Pins are forged integral with wrench. For conditions of finish, see above.

| Number | For Circle; Diameter | Extreme Length, Approx. | Finished Diameter Pin | Weight Each, Lbs. | Number |
|--------|-------------------------|-------------------------------|-----------------------------|-------------------------|--------|
| 452 | 1 | 4 | 3/16 | .08 | 452 |
| 453 | 1 1/4 | 4 1/2 | 13/64 | .11 | 453 |
| 454 | 1 1/2 | 5 | 7/32 | .13 | 454 |
| 455 | 1 3/4 | 5 1/2 | 15/64 | .17 | 455 |
| 456 | 2 | 6 | 1/4 | .20 | 456 |
| 457 | 2 1/4 | 6 1/2 | 17/64 | .23 | 457 |
| 458 | 2 1/2 | 7 | 9/32 | .31 | 458 |
| 459 | 2 3/4 | 7 1/2 | 19/64 | .33 | 459 |
| 460 | 3 | 8 | 5/16 | .44 | 460 |
| 461 | 3 1/4 | 8 1/2 | 21/64 | .50 | 461 |
| 462 | 3 1/2 | 9 | 11/32 | .56 | 462 |
| 463 | 3 3/4 | 9 1/2 | 23/64 | .66 | 463 |
| 464 | 4 | 10 | 3/8 | .70 | 464 |
| 466 | 5 | 12 | 7/16 | 1.3 | 466 |
| 468 | 6 | 14 | 1/2 | 1.9 | 468 |

WILLIAMS' ♦"SUPERIOR" HOOK SPANNERS
(Carbon Steel)



For Taper Nose
Lathe Spindles

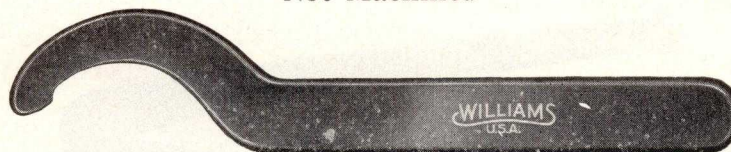
Made especially to service Face Plate Draw Nuts used on taper-nose spindles for new design lathes. Very efficient, also, for general work.

Supplied with bearing pads and hook machined; hardened, black enameled (baked on).

| No. | For Circle; Diameter | Extreme Length | Thickness, Hook End | Weight Each, Lbs. | No. |
|-----|-------------------------|-------------------|------------------------|----------------------|-----|
| 414 | * 7 3/8 | 20 | 5/8 | 4.1 | 414 |
| 415 | * 9 1/4 | 23 1/4 | 11/16 | 5.7 | 415 |
| 416 | *12 1/2 | 30 3/4 | 3/4 | 8.7 | 416 |

WILLIAMS' FLAT HOOK SPANNERS
(Carbon Steel)

Not Machined



The diameter of circle which the unfinished forgings fit is given in second column of table, but wrenches will finish to sizes stated in third column.

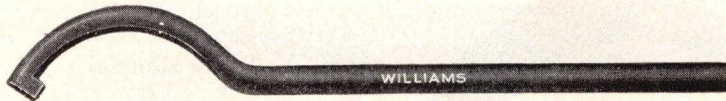
| No. | Forgings for Circle; Diameter | Forgings will finish for Circles; Diameter | Extreme Length, Approx. | Thickness | Weight Each, Lbs. | No. |
|-----|-------------------------------------|--|-------------------------------|-----------|-------------------------|-----|
| 403 | 1 1/4 | 1 to 1 1/4 | 4 3/4 | 7/32 | .13 | 403 |
| 404 | 1 1/2 | 1 3/8 to 1 5/8 | 6 | 1/4 | .25 | 404 |
| 405 | 2 | 1 3/4 to 2 | 7 1/8 | 1/4 | .38 | 405 |
| 406 | 2 1/4 | 2 1/8 to 2 3/8 | 8 7/16 | 1/4 | .48 | 406 |
| 407 | 2 5/8 | 2 1/2 to 2 3/4 | 9 3/4 | 1/4 | .64 | 407 |
| 408 | 3 1/8 | 2 7/8 to 3 1/4 | 11 | 5/16 | .98 | 408 |
| 409 | 3 3/4 | 3 3/8 to 3 7/8 | 12 | 5/16 | 1.2 | 409 |
| 410 | 4 3/8 | 4 to 4 1/2 | 13 | 5/16 | 1.3 | 410 |
| 412 | 5 3/4 | 5 1/4 to 5 3/4 | 15 | 7/16 | 2.6 | 412 |

* Can be furnished to order for circle 1/8" larger.

♦ REGISTERED TRADE MARK

WILLIAMS' LIGHT HOOK SPANNERS
(Carbon Steel)

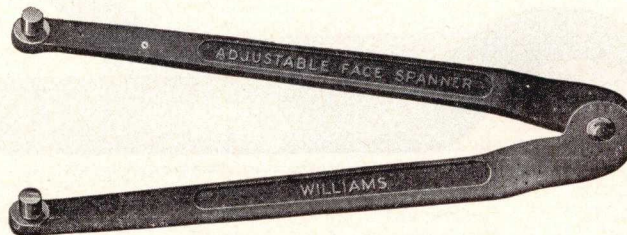
Not Machined



† Length of handle can be varied if desired.

| No. | For Circle; Diameter | Extreme †Length, Approx. | Hook | | | Diameter Handle | Weight Each, Lbs. | No. |
|------------|----------------------|--------------------------|--------|-------|-----------|-----------------|-------------------|------------|
| | | | Length | Width | Thickness | | | |
| 491 | 1 3/16 | 6 1/2 | 1/16 | 3/8 | 7/32 | 3/8 | .20 | 491 |
| 493 | 1 3/4 | 7 1/2 | 1/8 | 3/8 | 7/32 | 3/8 | .22 | 493 |
| 494 | 2 1/8 | 8 | 1/8 | 3/8 | 7/32 | 3/8 | .23 | 494 |
| 495 | 2 1/2 | 8 1/4 | 1/8 | 3/8 | 7/32 | 3/8 | .23 | 495 |
| 496 | 2 3/4 | 8 1/2 | 1/8 | 3/8 | 7/32 | 3/8 | .25 | 496 |
| 497 | 3 | 8 3/4 | 1/8 | 3/8 | 7/32 | 3/8 | .25 | 497 |
| 498 | 3 1/2 | 9 | 1/8 | 3/8 | 7/32 | 3/8 | .27 | 498 |

WILLIAMS' ♦ "SUPERIOR" ADJUSTABLE FACE SPANNERS
(Carbon Steel)

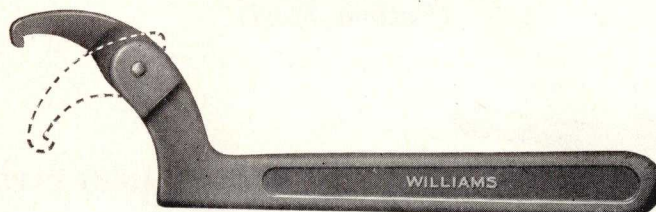


Drop-forged from a strong, tough grade of carefully selected steel, this is a desirable and dependable tool for service where Center to Center dimensions vary.

These Wrenches have pins milled, surfaces smooth, hardened, black enameled (baked on).

| No. | Extreme Capacity | Extreme Length, Approx. | Diameter of Pins | Weight Each, Lbs. | No. |
|------------|------------------|-------------------------|------------------|-------------------|------------|
| 482 | 2 | 6 3/8 | 3/16 | .33 | 482 |
| 483 | 3 | 8 1/4 | 1/4 | .59 | 483 |
| 484 | 4 | 10 3/8 | 5/16 | 1. | 484 |

WILLIAMS' ♦“SUPERIOR” ADJUSTABLE HOOK SPANNERS
(Carbon Steel)



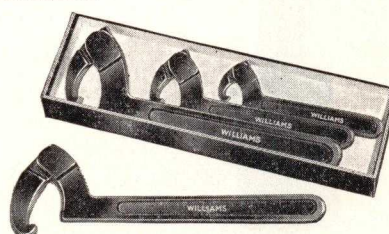
These Spanners offer an unusual combination of strength and ready adjustment; each tool provides for a wide range of sizes—see table. Drop-forged from a strong, tough grade of carefully selected steel, surfaces smoothed, black enameled (baked on); jaw hardened and tempered.

Sold individually, or in Set No. 401 which is especially serviceable on spindle bearings of lathes, milling machines and grinding machines. Also, for adjusting collars and slotted rings used on many types of automatic machines.

SET No. 401
In Cardboard Box

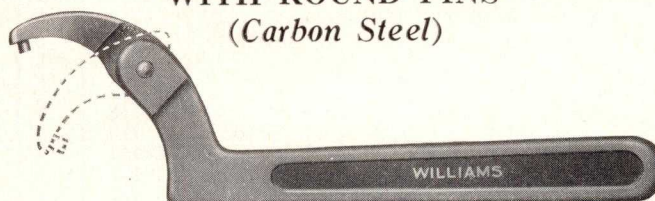
Weight, 3 lbs.

1 Each, Nos. 471, 472, 474 and 474A



| No. | Capacity for Circles, Diameter | Extreme Length, Approx. | Thickness | | Depth Hook | Weight Each, Lbs. | No. |
|------|--------------------------------|-------------------------|-----------|-------|------------|-------------------|------|
| | | | Handle | Hook | | | |
| 471 | 3/4 to 2 | 6 3/8 | 1/4 | 11/32 | 1/8 | .28 | 471 |
| 472 | 1 1/4 to 3 | 8 1/8 | 9/32 | 13/32 | 5/32 | .52 | 472 |
| 474 | 2 to 4 3/4 | 11 3/8 | 5/16 | 15/32 | 3/16 | .95 | 474 |
| 474A | 4 1/2 to 6 1/4 | 12 1/8 | 5/16 | 15/32 | 1/4 | 1.1 | 474A |

WILLIAMS' ♦“SUPERIOR” ADJUSTABLE HOOK SPANNERS
WITH ROUND PINS
(Carbon Steel)



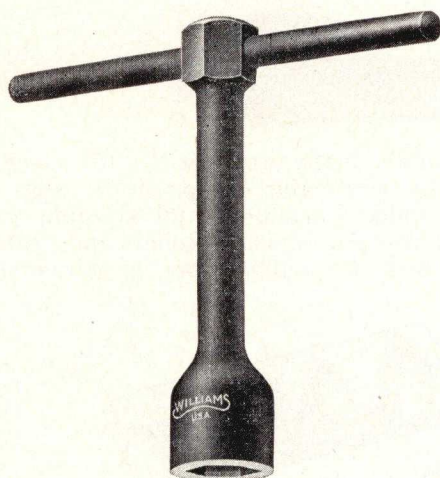
This adjustable type pin spanner is used for adjusting collars, lock nuts, rings, etc., used on various types of machine tool equipment. Drop-forged from a strong, tough grade of carefully selected steel, surfaces smoothed, black enameled (baked on); alloy steel jaw hardened and tempered.

| No. | Capacity for Circles, Diameter | Extreme Length, Approx. | Thickness | | Pin Size | | Weight Each, Lbs. | No. |
|--------|--------------------------------|-------------------------|-----------|-------|----------|--------|-------------------|--------|
| | | | Handle | Hook | Diam. | Length | | |
| O-471 | 3/4 to 2 | 6 3/8 | 1/4 | 11/32 | 1/8 | 1/8 | .27 | O-471 |
| O-471A | 3/4 to 2 | 6 3/8 | 1/4 | 11/32 | 3/16 | 5/32 | .27 | O-471A |
| O-472 | 1 1/4 to 3 | 8 1/8 | 9/32 | 13/32 | 3/16 | 3/16 | .5 | O-472 |
| O-472A | 1 1/4 to 3 | 8 1/8 | 9/32 | 13/32 | 1/4 | 7/32 | .5 | O-472A |
| O-474 | 2 to 4 3/4 | 11 3/8 | 5/16 | 15/32 | 1/4 | 1/4 | .99 | O-474 |
| O-474A | 4 1/2 to 6 1/4 | 12 1/8 | 5/16 | 15/32 | 3/8 | 1/4 | 1.1 | O-474A |

♦ REGISTERED TRADE MARK

(Alloy Steel Adjustable Hook Spanners, page 52.)

WILLIAMS' ♦ "SUPERIOR" SOCKET WRENCHES
(Carbon Steel)



STRAIGHT PATTERN

These wrenches are broached, surface smooth, sizes stamped, hardened and black enameled (baked on) — faces bright.

Whitworth Standard sizes, see page 214.

Special broaching to order in reasonable quantities.

(Continued on following page)

| No. | HEXAGON OPENINGS | | | | | Diam. of Head | Extreme Length, Approx. | Weight Each, Lbs. | No. |
|------|---------------------------------------|---|--|---|--|---------------------|-------------------------------|-------------------------|------|
| | Nominal Opening Across Flats | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | | | |
| 961A | 5/16 | 1/8 | | | | 1/2 | 4 1/4 | .13 | 961A |
| 962D | 3/8 | | 3/16 | | | 5/8 | 4 1/2 | .22 | 962D |
| 963A | 13/32 | 3/16 | | | | 11/16 | 4 7/8 | .3 | 963A |
| 963D | 7/16 | | 1/4 | 1/4 | 1/4 | 11/16 | 4 7/8 | .3 | 963D |
| 964A | 1/2 | 1/4 | 5/16 | 5/16 | | 3/4 | 5 1/4 | .31 | 964A |
| 965D | 9/16 | | 3/8 | 3/8 | 5/16 | 7/8 | 5 3/4 | .45 | 965D |
| 965A | 19/32 | 5/16 | | | | 7/8 | 5 3/4 | .45 | 965A |
| 966D | 5/8 | | 7/16 | 7/16 | 3/8 | 1 | 6 1/8 | .63 | 966D |
| 967A | 11/16 | 3/8 | | | | 1 1/8 | 6 1/2 | .92 | 967A |
| 967D | 3/4 | | 1/2 | 1/2 | 7/16 | 1 1/8 | 6 1/2 | .92 | 967D |
| 968A | 25/32 | 7/16 | | | | 1 1/4 | 7 | 1.1 | 968A |
| 968D | 13/16 | | 9/16 | | 1/2 | 1 1/4 | 7 | 1.1 | 968D |
| 969A | 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 1 3/8 | 7 3/8 | 1.3 | 969A |
| 970S | 15/16 | 9/16 | | 5/8 | | 1 1/2 | 7 7/8 | 1.6 | 970S |
| 970D | 1 | | 3/4 | | 5/8 | 1 1/2 | 7 7/8 | 1.6 | 970D |
| 971A | 1 1/16 | 5/8 | | 3/4 | | 1 5/8 | 8 1/4 | 1.9 | 971A |
| 971D | 1 1/8 | | 7/8 | | 3/4 | 1 5/8 | 8 1/4 | 1.9 | 971D |
| 973A | 1 1/4 | 3/4 | | 7/8 | | 1 7/8 | 9 1/8 | 2.9 | 973A |
| 973B | 1 5/16 | | 1 | | 7/8 | 1 7/8 | 9 1/8 | 2.9 | 973B |
| 975A | 1 7/16 | 7/8 | | 1 | | 2 1/8 | 10 | 4.2 | 975A |
| 975D | 1 1/2 | | 1 1/8 | | 1 | 2 1/8 | 10 | 4.2 | 975D |
| 976A | 1 5/8 | 1 | | 1 1/8 | | 2 3/8 | 10 3/8 | 5.3 | 976A |
| 976B | 1 11/16 | | 1 1/4 | | 1 1/8 | 2 3/8 | 10 3/8 | 5.3 | 976B |
| 977A | 1 13/16 | 1 1/8 | | 1 1/4 | | 2 5/8 | 10 7/8 | 7.2 | 977A |
| 977B | 1 7/8 | | | | 1 1/4 | 2 5/8 | 10 7/8 | 6.7 | 977B |
| 978A | 2 | 1 1/4 | | 1 3/8 | | 2 7/8 | 11 3/8 | 6.8 | 978A |
| 979A | 2 3/16 | 1 3/8 | | 1 1/2 | | 3 | 11 7/8 | 8.7 | 979A |
| 979B | 2 1/4 | | | | 1 1/2 | 3 | 11 7/8 | 8.7 | 979B |
| 980A | 2 3/8 | 1 1/2 | | | | 3 5/16 | 12 1/2 | 11. | 980A |

WILLIAMS' ♦"SUPERIOR" SOCKET WRENCHES
(Carbon Steel)

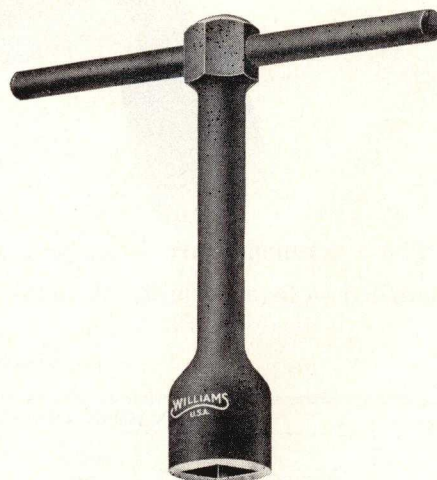
STRAIGHT PATTERN

(Continued from previous page)

Hexagon end of shank is designed for use in combination with another wrench or with Pin-Handle.

Wrenches of shorter or longer lengths than stated in table can be furnished to order in quantities.

Pin-Handles can be removed.



| No. | SQUARE OPENINGS | | | | | Diam. of Head | Extreme Length, Approx. | Weight Each, Lbs. | No. |
|------|-----------------|--|----------------------------|---------------------|-----------------------------------|---------------|-------------------------|-------------------|------|
| | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Cap Screw; Diam. Screw | For Set Screw; Size | Amer. Std. REGULAR Nut; Size Bolt | | | | |
| 961H | 3/16 | ..... | ..... | 3/16 | ..... | 1/2 | 4 1/4 | .13 | 961H |
| 961J | 1/4 | ..... | ..... | 1/4 | ..... | 1/2 | 4 1/4 | .13 | 961J |
| 962H | 5/16 | ..... | ..... | 5/16 | ..... | 5/8 | 4 1/2 | .22 | 962H |
| 963H | 3/8 | ..... | 1/4 | 3/8 | ..... | 11/16 | 4 7/8 | .3 | 963H |
| 965H | 7/16 | ..... | 5/16 | 7/16 | 1/4 | 7/8 | 5 3/4 | .45 | 965H |
| 966H | 1/2 | 1/4 | 3/8 | 1/2 | ..... | 1 | 6 1/8 | .63 | 966H |
| 967H | 9/16 | ..... | 7/16 | 9/16 | 5/16 | 1 1/8 | 6 1/2 | .92 | 967H |
| 968H | 5/8 | ..... | 1/2 | 5/8 | 3/8 | 1 1/4 | 7 | 1.1 | 968H |
| 968P | 11/16 | 3/8 | 9/16 | ..... | ..... | 1 1/4 | 7 | 1.1 | 968P |
| 969H | 3/4 | ..... | 5/8 | 3/4 | 7/16 | 1 3/8 | 7 3/8 | 1.3 | 969H |
| 971H | 7/8 | 1/2 | 3/4 | 7/8 | 9/16 | 1 5/8 | 8 1/4 | 1.9 | 971H |
| 973H | 1 | ..... | ..... | 1 | 5/8 | 1 7/8 | 9 1/8 | 2.9 | 973H |
| 974H | 1 1/8 | ..... | 7/8 | 1 1/8 | 3/4 | 2 | 9 1/2 | 3.5 | 974H |
| 976H | 1 1/4 | 3/4 | 1 | 1 1/4 | ..... | 2 3/8 | 10 3/8 | 5.3 | 976H |
| 977X | 1 7/16 | 7/8 | ..... | ..... | ..... | 2 5/8 | 10 7/8 | 7.2 | 977X |
| 977P | 1 1/2 | ..... | 1 1/4 | 1 1/2 | 1 | 2 5/8 | 10 7/8 | 7.2 | 977P |

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERIOR" OFFSET SOCKET WRENCHES
(Carbon Steel)



These wrenches are broached, surface smooth, sizes stamped, hardened and black enameled — faces bright. Whitworth Standard sizes, see page 214.

(Continued on following page)

| No. | HEXAGON OPENINGS | | | | | Diam. of Head | Extreme Length, Approx. | Handle Offset in Clear from Face of Wrench | Weight Each, Lbs. | No. |
|------|------------------------------|--|-----------------------------------|--|-----------------------------------|---------------|-------------------------|--|-------------------|------|
| | Nominal Opening Across Flats | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | | | | |
| 261A | 5/16 | 1/8 | | | | 1/2 | 3 3/8 | 13/16 | .08 | 261A |
| 262D | 3/8 | | 3/16 | | | 5/8 | 3 7/8 | 1 | .17 | 262D |
| 263A | 13/32 | 3/16 | | | | 11/16 | 4 5/16 | 1 1/16 | .19 | 263A |
| 263D | 7/16 | | 1/4 | 1/4 | 1/4 | 11/16 | 4 5/16 | 1 1/16 | .20 | 263D |
| 264A | 1/2 | 1/4 | 5/16 | 5/16 | | 3/4 | 5 1/8 | 1 1/4 | .22 | 264A |
| 265D | 9/16 | | 3/8 | 3/8 | 5/16 | 7/8 | 5 7/8 | 1 7/16 | .36 | 265D |
| 265A | 19/32 | 5/16 | | | | 7/8 | 5 7/8 | 1 7/16 | .36 | 265A |
| 266D | 5/8 | | 7/16 | 7/16 | 3/8 | 1 | 6 1/4 | 1 9/16 | .50 | 266D |
| 267A | 11/16 | 3/8 | | | | 1 1/8 | 6 3/4 | 1 5/8 | .67 | 267A |
| 267D | 3/4 | | 1/2 | 1/2 | 7/16 | 1 1/8 | 6 3/4 | 1 5/8 | .67 | 267D |
| 268A | 25/32 | 7/16 | | | | 1 1/4 | 7 1/2 | 1 13/16 | .92 | 268A |
| 268D | 13/16 | | 9/16 | | 1/2 | 1 1/4 | 7 1/2 | 1 13/16 | .94 | 268D |
| 269A | 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 1 3/8 | 8 3/8 | 2 | 1.1 | 269A |
| 270S | 15/16 | 9/16 | | 5/8 | | 1 1/2 | 9 1/8 | 2 3/16 | 1.4 | 270S |
| 270D | 1 | | 3/4 | | 5/8 | 1 1/2 | 9 1/8 | 2 3/16 | 1.4 | 270D |
| 271A | 1 1/16 | 5/8 | | 3/4 | | 1 5/8 | 10 | 2 3/8 | 1.8 | 271A |
| 271D | 1 1/8 | | 7/8 | | 3/4 | 1 5/8 | 10 | 2 3/8 | 1.8 | 271D |
| 273A | 1 1/4 | 3/4 | | 7/8 | | 1 7/8 | 11 5/8 | 2 3/4 | 2.7 | 273A |
| 273B | 1 5/16 | | 1 | | 7/8 | 1 7/8 | 11 5/8 | 2 3/4 | 2.7 | 273B |
| 275A | 1 7/16 | 7/8 | | 1 | | 2 1/8 | 13 1/4 | 3 1/8 | 4.1 | 275A |
| 275D | 1 1/2 | | 1 1/8 | | 1 | 2 1/8 | 13 1/4 | 3 1/8 | 4.1 | 275D |
| 276A | 1 5/8 | 1 | | 1 1/8 | | 2 3/8 | 14 7/8 | 3 1/2 | 5.1 | 276A |
| 276B | 1 11/16 | | 1 1/4 | | 1 1/8 | 2 3/8 | 14 7/8 | 3 1/2 | 5.1 | 276B |
| 277A | 1 13/16 | 1 1/8 | | 1 1/4 | | 2 5/8 | 16 1/2 | 3 7/8 | 6.6 | 277A |
| 277B | 1 7/8 | | | | 1 1/4 | 2 5/8 | 16 1/2 | 3 7/8 | 6.1 | 277B |
| 278A | 2 | 1 1/4 | | 1 3/8 | | 2 7/8 | 18 1/4 | 4 3/8 | 8. | 278A |
| 279A | 2 3/16 | 1 3/8 | | 1 1/2 | | 3 | 20 | 4 7/8 | 10. | 279A |
| 279B | 2 1/4 | | | | 1 1/2 | 3 | 20 | 4 7/8 | 10. | 279B |
| 280A | 2 3/8 | 1 1/2 | | | | 3 5/16 | 21 3/4 | 5 3/8 | 12.5 | 280A |

WILLIAMS' ♦“SUPERIOR” OFFSET SOCKET WRENCHES
(Carbon Steel)



(Continued from previous page)

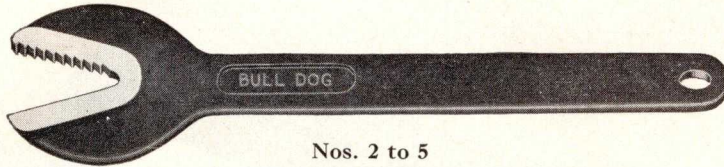
Special broaching to order in reasonable quantities.

These Offset Socket Wrenches, of shorter or longer lengths than stated in table, can be furnished to order in quantities.

| No. | SQUARE OPENINGS | | | | | Diam. of Head | Extreme Length, Approx. | Handle Offset in Clear from Face of Wrench | Weight Each, Lbs. | No. |
|------|--------------------|---|--|------------------------------|--|---------------------|-------------------------------|---|-------------------------|------|
| | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Cap Screw; Diam. Screw | For Set Screw; Size | Amer. Std. REGULAR Nut; Size Bolt | | | | | |
| 261J | 1/4 | ..... | ..... | 1/4 | ..... | 1/2 | 3 3/8 | 13/16 | .08 | 261J |
| 262H | 5/16 | ..... | ..... | 5/16 | ..... | 5/8 | 3 7/8 | 1 | .17 | 262H |
| 263H | 3/8 | ..... | 1/4 | 3/8 | ..... | 11/16 | 4 5/16 | 1 1/16 | .20 | 263H |
| 265H | 7/16 | ..... | 5/16 | 7/16 | 1/4 | 7/8 | 5 7/8 | 1 7/16 | .36 | 265H |
| 266H | 1/2 | 1/4 | 3/8 | 1/2 | ..... | 1 | 6 1/4 | 1 9/16 | .52 | 266H |
| 267H | 9/16 | ..... | 7/16 | 9/16 | 5/16 | 1 1/8 | 6 3/4 | 1 5/8 | .70 | 267H |
| 268H | 5/8 | ..... | 1/2 | 5/8 | 3/8 | 1 1/4 | 7 1/2 | 1 13/16 | .95 | 268H |
| 268P | 11/16 | 3/8 | 9/16 | ..... | ..... | 1 1/4 | 7 1/2 | 1 13/16 | .92 | 268P |
| 269H | 3/4 | ..... | 5/8 | 3/4 | 7/16 | 1 3/8 | 8 3/8 | 2 | 1. | 269H |
| 271H | 7/8 | 1/2 | 3/4 | 7/8 | 9/16 | 1 5/8 | 10 | 2 3/8 | 1.9 | 271H |
| 273H | 1 | ..... | ..... | 1 | 5/8 | 1 7/8 | 11 5/8 | 2 3/4 | 2.7 | 273H |
| 274H | 1 1/8 | ..... | 7/8 | 1 1/8 | 3/4 | 2 | 12 3/8 | 2 7/8 | 3.5 | 274H |
| 276H | 1 1/4 | 3/4 | 1 | 1 1/4 | ..... | 2 3/8 | 14 7/8 | 3 1/2 | 5.7 | 276H |

♦ REGISTERED TRADE MARK

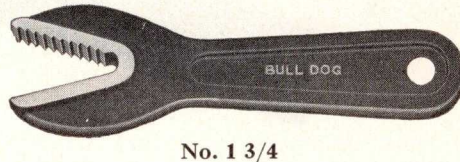
WILLIAMS' "BULL DOG" WRENCHES
(Carbon Steel)



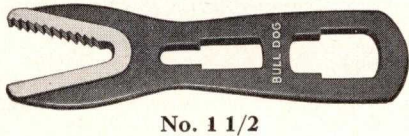
Nos. 2 to 5



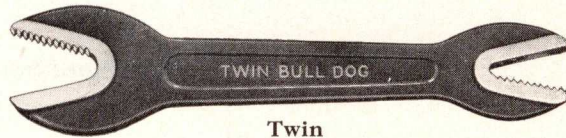
No. 1



No. 1 3/4



No. 1 1/2



Twin

"ALWAYS READY" WRENCHES



Designed for all-around service, these wrenches will grip round, square, hexagon or any shape that will fit between their tough jaws.

Drop-forged from a specially fine grade of steel and carefully tempered in oil, these wrenches are practically indestructible.

The handles of "Bull Dog" Nos. 2 and 2-1/2 are concave.

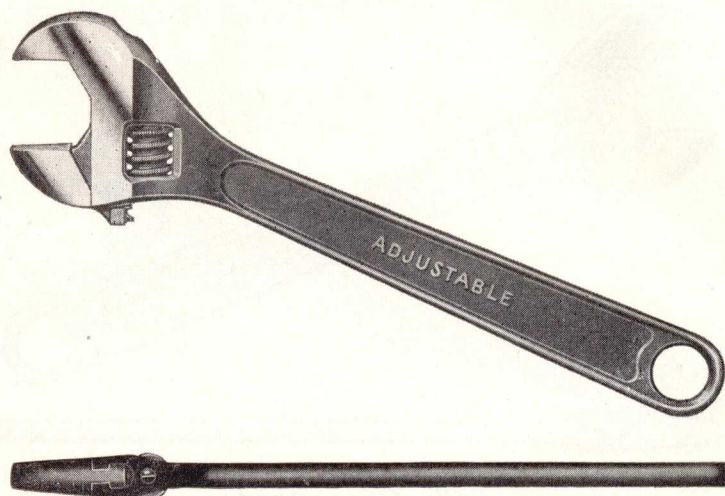
"BULL DOG" WRENCHES

| No. | Capacity | | Extreme Length | Weight Each, Lbs. | No. |
|-------|--------------|----------------|----------------|-------------------|-------|
| | Pipe | Rounds | | | |
| 1 | 1/8 to 3/8 | 1/4 to 3/4 | 5 1/2 | .25 | 1 |
| 1 1/2 | 1/8 to 1/2 | 3/8 to 7/8 | 5 1/2 | .29 | 1 1/2 |
| 1 3/4 | 1/8 to 3/4 | 3/8 to 1 | 7 | .56 | 1 3/4 |
| 2 | 1/4 to 3/4 | 1/2 to 1 | 9 | .86 | 2 |
| 2 1/2 | 3/8 to 1 | 5/8 to 1 1/4 | 12 1/2 | 1.4 | 2 1/2 |
| 3 | 1/2 to 1 1/4 | 3/4 to 1 1/2 | 16 | 3.1 | 3 |
| 3 1/2 | 1/2 to 1 1/2 | 3/4 to 1 3/4 | 18 3/4 | 4.3 | 3 1/2 |
| 4 | 3/4 to 2 | 1 to 2 1/4 | 22 | 7.9 | 4 |
| 4 1/2 | 1 to 2 1/2 | 1 1/4 to 2 3/4 | 24 | 10.1 | 4 1/2 |
| 5 | 2 to 3 | 2 1/4 to 3 1/2 | 27 | 13.8 | 5 |
| Twin | 1/8 to 3/4 | 5/16 to 1 | 10 | 1.1 | Twin |

"ALWAYS READY" WRENCHES

| | | | | | |
|-------|--------------|--------------|--------|-----|-------|
| 1 | 1/8 to 3/8 | 1/4 to 3/4 | 5 | .37 | 1 |
| 2 | 1/8 to 1 | 1/4 to 1 1/4 | 7 | .75 | 2 |
| 2 1/2 | 1/8 to 1 1/2 | 1/4 to 1 3/4 | 9 1/2 | 1.7 | 2 1/2 |
| 3 | 1/2 to 1 1/2 | 3/4 to 2 | 11 1/2 | 2.7 | 3 |

WILLIAMS' ADJUSTABLE WRENCHES
(Carbon Steel)
PATENTED



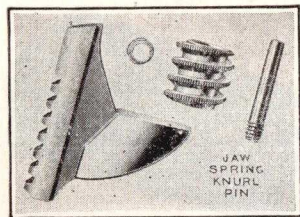
Fully Guaranteed

Williams' Carbon Adjustable Wrenches with thin, tapered jaws, are thinner and lighter than conventional carbon steel adjustable wrenches of similar capacity and possess unusual strength and toughness due to improved design and materials. They are drop-forged from the finest selected steel and accurately heat-treated.

The exclusive design of the square shoulders on the shank portion of the sliding jaw provide maximum and positive bearing against working stress. They eliminate entirely the wedging and spreading action, inevitable in wrenches having a cylindrical bearing at this point. The shoulders also permit a thicker "web" on the jaw, for added strength, without increasing the thickness of the wrench head. The net result is a sliding jaw that is unbreakable in wrench service.

Drop-forged from specially strong, tough steel and accurately heat-treated in electric furnaces for uniform, dependable strength. Finish—shot-blasted, faces of heads polished bright. Packed, individually, in attractive cardboard box.

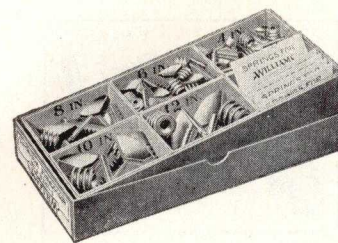
REPLACEMENT PARTS ASSORTMENT



Weight, 2.5 Lbs.

Packed in compartment cardboard box containing 88 of the following parts:—

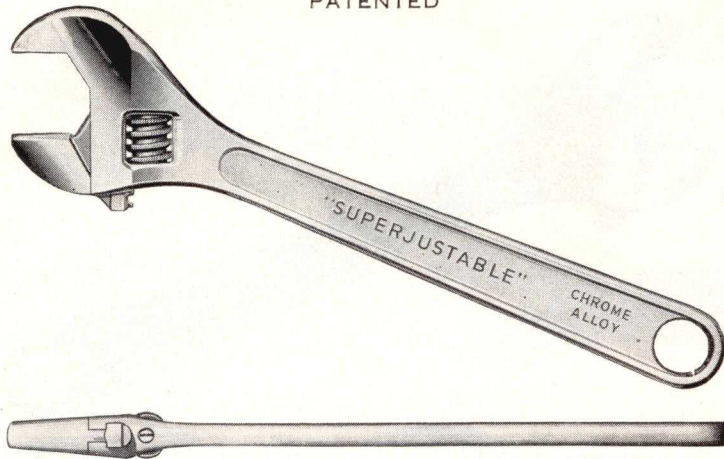
| Size | Jaws | Knurls | Pins | Springs |
|------|------|--------|------|---------|
| 4" | 4 | 4 | 4 | 4 |
| 6" | 6 | 6 | 6 | 6 |
| 8" | 6 | 6 | 6 | 6 |
| 10" | 4 | 4 | 4 | 4 |
| 12" | 2 | 2 | 2 | 2 |



| Size, Inch | Capacity | Thickness Head | | Weight Each, Lbs. | Extra Parts | | | | Size, Inch |
|---------------|----------|----------------|---------|----------------------|-------------|-------|-----|--------|---------------|
| | | Tip of Jaws | Extreme | | Jaw | Knurl | Pin | Spring | |
| 4 | 1/2 | 9/64 | 5/16 | .11 | | | | | 4 |
| 6 | 3/4 | 7/32 | 3/8 | .28 | | | | | 6 |
| 8 | 15/16 | 17/64 | 1/2 | .52 | | | | | 8 |
| 10 | 1- 1/8 | 23/64 | 19/32 | .88 | | | | | 10 |
| 12 | 1- 5/16 | 15/32 | 23/32 | 1.5 | | | | | 12 |
| 15 | 1- 3/4 | 19/32 | 31/32 | 3.4 | | | | | 15 |
| 18 | 2- 1/16 | 23/32 | 1- 3/16 | 5.6 | | | | | 18 |

WILLIAMS' "SUPERJUSTABLE" WRENCHES
Selected Alloy Steel

PATENTED



Fully Guaranteed

Williams' "Superjustable" Wrenches with thin, tapered jaws, are drop-forged from the finest grade of Selected Alloy Steel obtainable for the purpose. "Superjustables" are thinner and lighter, yet stronger and tougher than conventional carbon steel adjustable wrenches of similar capacity. They are second to no other alloy steel adjustable wrenches in appearance, strength and durability.

The exclusive design of the square shoulders on the shank portion of the sliding jaw provide maximum and positive bearing against working stress. They eliminate entirely the wedging and spreading action, inevitable in wrenches having a cylindrical bearing at this point. The shoulders also permit a thicker "web" on the jaw, for added strength, without increasing the thickness of the wrench head. The net result is a sliding jaw with maximum resistance to breakage.

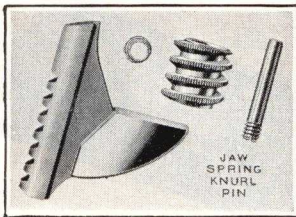
All parts are carefully machined to extremely close limits, assuring the accurate fit essential in wrenches of this class. Heat-treatment in recording electric furnaces of the latest type insures uniformity of product and tough, dependable strength.

Attractively finished in chrome-plate over nickel, with highly polished face; the handle is in "satin" finish. Individually packed.

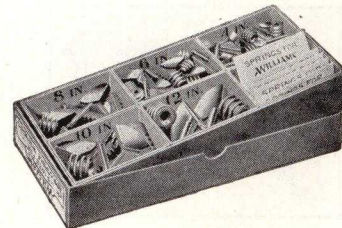
REPLACEMENT PARTS ASSORTMENT

Weight, 2.5 Lbs.

Packed in compartment cardboard box containing 88 of the following parts:—



| Size | Jaws | Knurls | Pins | Springs |
|------|------|--------|------|---------|
| 4" | 4 | 4 | 4 | 4 |
| 6" | 6 | 6 | 6 | 6 |
| 8" | 6 | 6 | 6 | 6 |
| 10" | 4 | 4 | 4 | 4 |
| 12" | 2 | 2 | 2 | 2 |



| Size, Inch | Capacity | Thickness Head | | Weight Each, Lbs. | Extra Parts | | | | Size, Inch |
|---------------|----------|----------------|---------|----------------------|-------------|-------|-----|--------|---------------|
| | | Tip of Jaws | Extreme | | Jaw | Knurl | Pin | Spring | |
| 4 | 1/2 | 9/64 | 5/16 | .11 | | | | | 4 |
| 6 | 3/4 | 7/32 | 3/8 | .27 | | | | | 6 |
| 8 | 15/16 | 17/64 | 1/2 | .52 | | | | | 8 |
| 10 | 1- 1/8 | 23/64 | 19/32 | .90 | | | | | 10 |
| 12 | 1- 5/16 | 15/32 | 23/32 | 1.6 | | | | | 12 |
| 15 | 1- 3/4 | 19/32 | 31/32 | 3.6 | | | | | 15 |
| 18 | 2- 1/16 | 23/32 | 1- 3/16 | 6. | | | | | 18 |
| 24 | 2- 7/16 | 7/8 | 1- 3/8 | 9.1 | | | | | 24 |

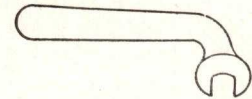
WILLIAMS' ♦ "SUPERRENCHES"
Selected Alloy Steel

ENGINEERS' PATTERN — 15° Angle, Single Head



These "Superrenches" are drop-forged from Selected Alloy Steel and heat-treated.
Finish—Chrome-plate over nickel, faces bright.

Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge; see illustration at right.

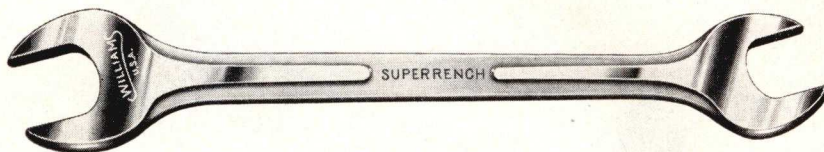


| No. | Nominal Opening | For Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Amer. Std. Hex Head Cap Screw; Diam. Screw | For Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | For Amer. Std. REGULAR Nut; Size Bolt | Ex-treme Length | Thick-ness Head | Weight Each, Lbs. |
|-------|-----------------|--|--|--|---------------------------------------|-----------------|-----------------|-------------------|
| 1000 | 5/16 | 1/8 | 1/8 | ..... | ..... | 3 5/8 | 7/32 | .07 |
| 1700 | 3/8 | ..... | 3/16 | ..... | ..... | 4 1/8 | 1/4 | .09 |
| 1000A | 13/32 | 3/16 | ..... | ..... | ..... | 4 1/8 | 1/4 | .09 |
| 1701 | 7/16 | ..... | 1/4 | 1/4 | 1/4 | 4 3/4 | 9/32 | .13 |
| 1001 | 1/2 | 1/4 | 5/16 | 5/16 | ..... | 4 3/4 | 9/32 | .13 |
| 1702 | 9/16 | ..... | 3/8 | 3/8 | 5/16 | 5 5/8 | 5/16 | .22 |
| 1002 | 19/32 | 5/16 | ..... | ..... | ..... | 5 5/8 | 5/16 | .22 |
| 1703 | 5/8 | ..... | 7/16 | 7/16 | 3/8 | 6 1/2 | 11/32 | .33 |
| 1003 | 11/16 | 3/8 | ..... | ..... | ..... | 6 1/2 | 11/32 | .33 |
| 1704 | 3/4 | ..... | 1/2 | 1/2 | 7/16 | 7 3/8 | 3/8 | .48 |
| 1004 | 25/32 | 7/16 | ..... | ..... | ..... | 7 3/8 | 3/8 | .48 |
| 1705 | 13/16 | ..... | 9/16 | ..... | 1/2 | 8 3/8 | 7/16 | .65 |
| 1005 | 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 8 3/8 | 7/16 | .65 |
| 1006 | 15/16 | 9/16 | ..... | 5/8 | ..... | 9 1/2 | 1/2 | .92 |
| 1706 | 1 | ..... | 3/4 | 11/16 | 5/8 | 9 1/2 | 1/2 | .92 |
| 1007 | 1 1/16 | 5/8 | ..... | 3/4 | ..... | 10 3/4 | 9/16 | 1.5 |
| 1707 | 1 1/8 | ..... | 7/8 | ..... | 3/4 | 10 3/4 | 9/16 | 1.5 |
| 1008 | 1 1/4 | 3/4 | ..... | 7/8 | ..... | 12 1/4 | 21/32 | 2.2 |
| 1008A | 1 5/16 | ..... | 1 | ..... | 7/8 | 12 1/4 | 21/32 | 2.2 |
| 1009 | 1 7/16 | 7/8 | ..... | 1 | ..... | 13 7/8 | 23/32 | 2.8 |
| 1709 | 1 1/2 | ..... | 1 1/8 | ..... | 1 | 13 7/8 | 23/32 | 2.8 |
| 1010 | 1 5/8 | 1 | ..... | 1 1/8 | ..... | 15 1/2 | 25/32 | 3.9 |
| 1010A | 1 11/16 | ..... | 1 1/4 | ..... | 1 1/8 | 15 1/2 | 25/32 | 3.9 |
| 1011 | 1 13/16 | 1 1/8 | ..... | 1 1/4 | ..... | 17 1/8 | 7/8 | 4.8 |
| 1011A | 1 7/8 | ..... | ..... | ..... | 1 1/4 | 17 1/8 | 7/8 | 4.8 |
| 1012 | 2 | 1 1/4 | ..... | 1 3/8 | ..... | 18 7/8 | 15/16 | 6.2 |
| 1012A | 2 1/16 | ..... | ..... | ..... | 1 3/8 | 18 7/8 | 15/16 | 6.2 |
| 1013 | 2 3/16 | 1 3/8 | ..... | 1 1/2 | ..... | 20 3/4 | 1 | 8. |
| 1013A | 2 1/4 | ..... | ..... | ..... | 1 1/2 | 20 3/4 | 1 | 8. |
| 1014 | 2 3/8 | 1 1/2 | ..... | ..... | ..... | 22 3/4 | 1 1/16 | 10. |
| 1014A | 2 7/16 | ..... | ..... | ..... | 1 5/8 | 22 3/4 | 1 1/16 | 10. |

♦ REGISTERED TRADE MARK

WILLIAMS' "SUPERRENCHES" Selected Alloy Steel

NEW STREAMLINED DESIGN
15° Angle, Double Head Open-End



Williams' NEW Streamlined "Superrenches" with double head, open-ends are available in a full range of 15° angle opening combinations.

A redistribution of weight has created exceptional balance so important to the mechanic. Slimmer heads, longer and narrower handles make these wrenches more serviceable where clearance is limited.

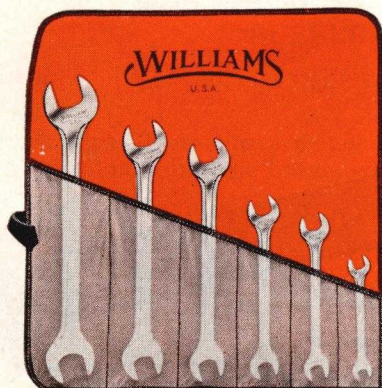
The selected alloy steel from which these "Superrenches" are drop-forged assures ample strength for the severest service. Finish is chrome plate over nickel with faces polished bright.

| No. | Nominal Openings | For Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | For Amer. Std. Hex Head Cap Screws; Diam. Screws | For Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | For Amer. Std. REGULAR Nuts; Size Bolts | Ex-treme Length | Thick-ness Heads | Weight Each, Lbs. | No. |
|--------|------------------|--|--|--|---|-----------------|------------------|-------------------|--------|
| A1020 | 1/4 & 5/16 | 1/8 | 1/8 | | | 3 13/16 | 5/32 | .03 | A1020 |
| A1720 | 5/16 & 11/32 | 1/8 | 1/8 | | | 4 1/4 | 3/16 | .05 | A1720 |
| A1721 | 5/16 & 3/8 | 1/8 | 1/8 & 3/16 | | | 4 1/4 | 3/16 | .05 | A1721 |
| A1021 | 5/16 & 13/32 | 1/8 & 3/16 | 1/8 | | | 4 1/2 | 13/64 | .06 | A1021 |
| A1723 | 3/8 & 7/16 | | 3/16 & 1/4 | 1/4 | 1/4 | 4 11/16 | 13/64 | .07 | A1723 |
| A1023 | 13/32 & 1/2 | 3/16 & 1/4 | 5/16 | 5/16 | | 4 7/8 | 7/32 | .08 | A1023 |
| A1723A | 3/8 & 1/2 | 1/4 | 13/16 & 5/16 | 5/16 | | 4 7/8 | 7/32 | .08 | A1723A |
| A1725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5 1/8 | 7/32 | .10 | A1725 |
| A1725A | 7/16 & 9/16 | | 1/4 & 3/8 | 1/4 & 3/8 | 1/4 & 5/16 | 5 5/8 | 15/64 | .12 | A1725A |
| A1725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 6 1/4 | 1/4 | .15 | A1725B |
| A1025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | | 6 1/4 | 1/4 | .16 | A1025 |
| A1727 | 9/16 & 5/8 | | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 7/8 | 17/64 | .20 | A1727 |
| A1027C | 9/16 & 11/16 | 3/8 | 3/8 | 3/8 | 5/16 | 7 1/8 | 9/32 | .23 | A1027C |
| A1027 | 19/32 & 11/16 | 5/16 & 3/8 | 3/8 | 3/8 | | 7 1/2 | 9/32 | .26 | A1027 |
| A1027B | 5/8 & 11/16 | 3/8 | 7/16 | 7/16 | 3/8 | 7 1/2 | 9/32 | .26 | A1027B |
| A1028 | 19/32 & 25/32 | 5/16 & 7/16 | | | | 8 1/4 | 19/64 | .32 | A1028 |
| A1028S | 5/8 & 25/32 | 7/16 | 7/16 | 7/16 | 3/8 | 8 1/4 | 19/64 | .32 | A1028S |
| A1729 | 5/8 & 3/4 | | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | 8 1/4 | 19/64 | .32 | A1729 |
| A1029B | 11/16 & 3/4 | 3/8 | 1/2 | 1/2 | 7/16 | 9 | 5/16 | .38 | A1029B |
| A1029 | 11/16 & 25/32 | 3/8 & 7/16 | | | | 9 | 5/16 | .38 | A1029 |
| A1029C | 11/16 & 13/16 | 3/8 | 9/16 | 9/16 | 1/2 | 9 | 5/16 | .37 | A1029C |
| A1030 | 11/16 & 7/8 | 3/8 & 1/2 | 5/8 | 5/8 | 9/16 | 9 3/8 | 21/64 | .45 | A1030 |
| A1731 | 3/4 & 13/16 | | 1/2 & 9/16 | 1/2 | 7/16 & 1/2 | 9 3/4 | 11/32 | .54 | A1731 |
| A1731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 9 3/4 | 11/32 | .54 | A1731A |
| A1031B | 25/32 & 13/16 | 7/16 | 9/16 | 9/16 | 1/2 | 9 3/4 | 11/32 | .54 | A1031B |
| A1031 | 25/32 & 7/8 | 7/16 & 1/2 | 5/8 | 9/16 | 9/16 | 9 3/4 | 11/32 | .53 | A1031 |
| A1731B | 13/16 & 7/8 | 1/2 | 9/16 & 5/8 | 9/16 | 1/2 & 9/16 | 9 3/4 | 11/32 | .53 | A1731B |
| A1032B | 13/16 & 15/16 | 9/16 | 9/16 | 5/8 | 1/2 | 10 1/2 | 3/8 | .71 | A1032B |
| A1033A | 7/8 & 15/16 | 1/2 & 9/16 | 5/8 | 9/16 & 5/8 | 9/16 | 10 1/2 | 3/8 | .69 | A1033A |
| A1733 | 7/8 & 1 | 1/2 | 5/8 & 3/4 | 9/16 | 9/16 & 5/8 | 11 3/8 | 13/32 | .92 | A1733 |
| A1033C | 15/16 & 1 | 9/16 | 3/4 | 5/8 | 5/8 | 11 3/8 | 13/32 | .91 | A1033C |
| A1034 | 7/8 & 1 1/16 | 1/2 & 5/8 | 5/8 | 9/16 & 3/4 | 9/16 | 11 3/8 | 13/32 | .90 | A1034 |
| A1034A | 15/16 & 1 1/16 | 9/16 & 5/8 | | 5/8 & 3/4 | | 11 3/8 | 13/32 | .90 | A1034A |
| A1035 | 31/32 & 1 1/16 | 9/16 & 5/8 | | 3/4 | | 11 3/8 | 13/32 | .92 | A1035 |
| A1735 | 1 & 1 1/8 | | 3/4 & 7/8 | | 5/8 & 3/4 | 12 1/4 | 7/16 | 1.1 | A1735 |
| A1036B | 1 1/16 & 1 1/8 | 5/8 | 7/8 | 3/4 | 3/4 | 12 1/4 | 7/16 | 1.2 | A1036B |
| A1037 | 1 1/16 & 1 1/4 | 5/8 & 3/4 | | 3/4 & 7/8 | | 13 1/4 | 15/32 | 1.4 | A1037 |
| A1737 | 1 1/8 & 1 1/4 | 3/4 | 7/8 | 7/8 | 3/4 | 13 1/4 | 15/32 | 1.4 | A1737 |
| A1037A | 1 1/8 & 1 5/16 | | 7/8 & 1 | | 3/4 & 7/8 | 13 1/4 | 15/32 | 1.4 | A1037A |
| A1039B | 1 1/4 & 1 5/16 | 3/4 | 1 | 7/8 | 7/8 | 14 3/8 | 1/2 | 1.9 | A1039B |
| A1039 | 1 1/4 & 1 7/16 | 3/4 & 7/8 | | 7/8 & 1 | | 14 3/8 | 1/2 | 1.8 | A1039 |
| A1039A | 1 5/16 & 1 1/2 | | 1 & 1 1/8 | | 7/8 & 1 | 15 1/2 | 17/32 | 2.3 | A1039A |
| A1039C | 1 3/8 & 1 7/16 | 7/8 | | 1 | | 15 1/2 | 17/32 | 2.3 | A1039C |
| A1040 | 1 1/4 & 1 5/8 | 3/4 & 1 | | 7/8 & 1 1/8 | | 16 1/8 | 35/64 | 2.5 | A1040 |
| A1041 | 1 7/16 & 1 5/8 | 7/8 & 1 | | 1 & 1 1/8 | | 16 5/8 | 9/16 | 2.7 | A1041 |
| A1041B | 1 1/2 & 1 5/8 | 1 | 1 1/8 | 1 1/8 | 1 | 16 5/8 | 9/16 | 2.7 | A1041B |

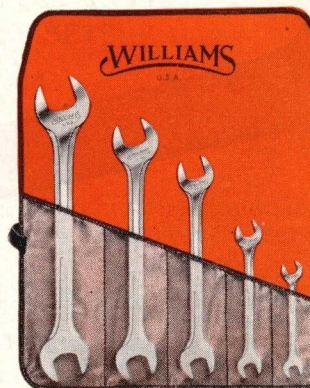
For Whitworth and Metric Sizes, see page 215.

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERRENCH" SETS
Selected Alloy Steel



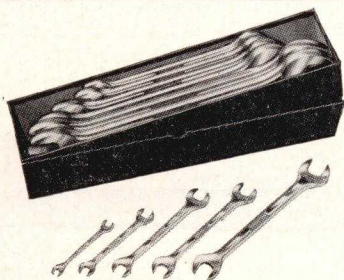
SET No. A1025A



SET No. A1005S

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | Amer. Std. Hex Head Cap Screws; Diam. Screws | Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | Amer. Std. REGULAR Nuts; Size Bolts | No. |
|--|------------------|--|--|--|-------------------------------------|--------|
| SET No. A1025A In Leatherette Roll—In Cardboard Box Weight, 2.8 Lbs. | | | | | | |
| A1723 | 3/8 & 7/16 | | 3/16 & 1/4 | 1/4 | 1/4 | A1723 |
| A1025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | | A1025 |
| A1727 | 9/16 & 5/8 | | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | A1727 |
| A1029 | 11/16 & 25/32 | 3/8 & 7/16 | | | | A1029 |
| A1731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | A1731A |
| A1033C | 15/16 & 1 | 9/16 | 3/4 | 5/8 | 5/8 | A1033C |

| | | | | | | |
|--|----------------|-----------|------------|------------|-------------|--------|
| SET No. A1005S In Leatherette Roll—In Cardboard Box Weight, 3.9 Lbs. | | | | | | |
| A1725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | A1725 |
| A1727 | 9/16 & 5/8 | | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | A1727 |
| A1731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | A1731A |
| A1033C | 15/16 & 1 | 9/16 | 3/4 | 5/8 | 5/8 | A1033C |
| A1037 | 1 1/16 & 1 1/4 | 5/8 & 3/4 | | 3/4 & 7/8 | | A1037 |



SET No. A1712A

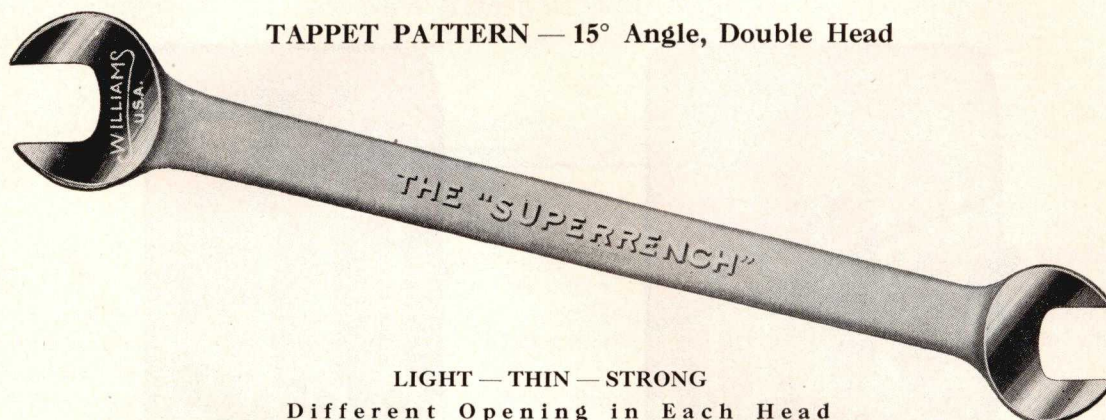
Complete, In Cardboard Box
11 Wrenches, 22 Different Openings
Weight, 9.5 Lbs.

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | Amer. Std. Hex Head Cap Screws; Diam. Screws | Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | Amer. Std. REGULAR Nuts; Size Bolts | No. |
|--------|------------------|--|--|--|-------------------------------------|--------|
| A1020 | 1/4 & 5/16 | 1/8 | 1/8 | | | A1020 |
| A1723 | 3/8 & 7/16 | | 3/16 & 1/4 | 1/4 | 1/4 | A1723 |
| A1025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | | A1025 |
| A1727 | 9/16 & 5/8 | | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | A1727 |
| A1029 | 11/16 & 25/32 | 3/8 & 7/16 | | | | A1029 |
| A1731 | 3/4 & 13/16 | | 1/2 & 9/16 | 1/2 | 7/16 & 1/2 | A1731 |
| A1033A | 7/8 & 15/16 | 1/2 & 9/16 | 5/8 | 9/16 & 5/8 | 9/16 | A1033A |
| A1735 | 1 & 1 1/8 | | 3/4 & 7/8 | | 5/8 & 3/4 | A1735 |
| A1037 | 1 1/16 & 1 1/4 | 5/8 & 3/4 | | 3/4 & 7/8 | | A1037 |
| A1039A | 1 5/16 & 1 1/2 | | 1 & 1 1/8 | | 7/8 & 1 | A1039A |
| A1039C | 1 3/8 & 1 7/16 | 7/8 | | 1 | | A1039C |

WILLIAMS' "SUPERRENCHES"

Selected Alloy Steel

TAPPET PATTERN — 15° Angle, Double Head



LIGHT — THIN — STRONG

Different Opening in Each Head

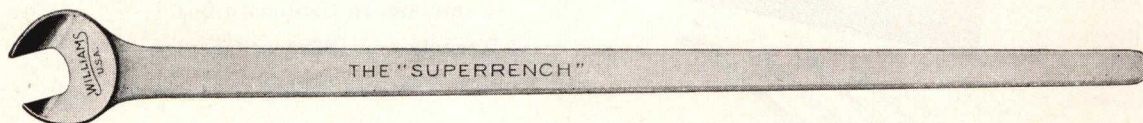
These light, thin Wrenches are specially designed for tappet adjustment; their length is ample to prevent burning the hands when the motor is hot.

The 15° angle of opening is unequalled in efficiency. It makes the same size opening in both heads of the wrench unnecessary. Consequently *each* "Superrench" serves *two sizes* of tappets.

Drop-forged from special Selected Alloy Steel, heat-treated, chrome-finished, heads buffed bright.

| No. | Nominal Openings Tappet Sizes | For Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | For Amer. Std. Hex Head Cap Screws; Diam. Screws | For Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | For Amer. Std. REGULAR Nuts; Size Bolts | Ex- treme Length | Thick- ness Heads | Weight Each, Lbs. |
|-------|-------------------------------------|--|--|--|---|------------------------|-------------------------|-------------------------|
| 1090A | 3/8 & 7/16 | ..... | 3/16 & 1/4 | 1/4 | 1/4 | 8 | 5/32 | .19 |
| 1090 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 8 | 5/32 | .19 |
| 1090G | 7/16 & 17/32 | ..... | 1/4 | 1/4 | 1/4 | 8 | 5/32 | .19 |
| 1090D | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 8 | 5/32 | .19 |
| 1092 | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 8 | 3/16 | .22 |
| 1092F | 5/8 & 11/16 | 3/8 | 7/16 | 7/16 | 3/8 | 8 | 3/16 | .22 |
| 1094G | 3/4 & 13/16 | ..... | 1/2 & 9/16 | 1/2 | 7/16 & 1/2 | 9 | 7/32 | .34 |
| 1094 | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 9 | 7/32 | .34 |
| 1096 | 15/16 & 1 | 9/16 | 3/4 | 5/8 | 5/8 | 9 | 7/32 | .41 |

EXTRA LONG, THIN TAPPET PATTERN — 15° ANGLE



All auto mechanics will want these extra long (15 inch) Tappet Wrenches for convenient reach over hot manifolds. Slender and light for easy adjustment, with narrow jaws for close places. The range of openings—3/8 to 5/8"—provides comprehensive service for practically every make of car, including late models. All heads 3/16" thick.

Sold individually and in sets.

Drop-forged from special Selected Alloy Steel, and heat-treated for maximum strength. Cadmium-plated.

| No. | Nominal Opening | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGULAR Nut | Weight Each, Lbs. | No. |
|-------|--------------------|-------------------------------------|-------------------------------------|------------------------------|-------------------------|-------|
| A100C | 3/8 | 3/16 | ..... | ..... | .32 | A100C |
| A100 | 7/16 | 1/4 | 1/4 | 1/4 | .32 | A100 |
| A100A | 1/2 | 5/16 | 5/16 | 5/16 | .32 | A100A |
| A100B | 9/16 | 3/8 | 3/8 | 5/16 | .32 | A100B |
| A101 | 5/8 | 7/16 | 7/16 | 3/8 | .36 | A101 |

WILLIAMS' TAPPET ♦ "SUPERRENCHES"

Selected Alloy Steel

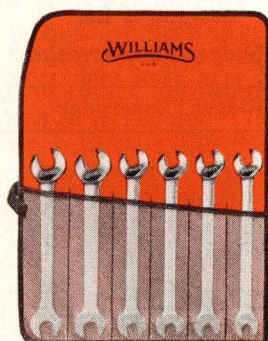
"SUPERRENCH" TAPPET SETS

15° Angle, Double Head

These light, thin Wrenches are specially designed for tappet adjustment; their length is ample to prevent burning the hands when the motor is hot.

The 15° angle of opening is unequalled in efficiency. It makes the same size opening in both heads of the wrench unnecessary. Consequently *each* "Superrench" serves *two* sizes of tappets.

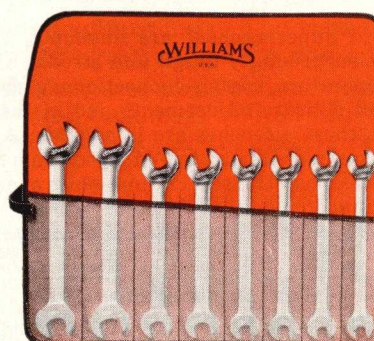
Drop-forged from special Selected Alloy Steel, heat-treated, chrome-finished, heads buffed bright.



SET No. 1032

In Leatherette Roll
In Cardboard Box
Weight, 1.3 Lbs.

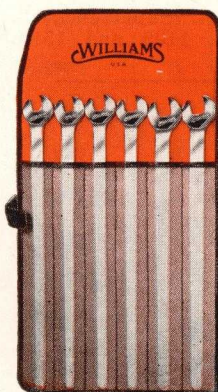
Six "Superrenches"; 2 each of Nos. 1090, 1090D and 1092F, described on page 32, covering every tappet size from 7/16 in. to 11/16 in. Cares for 80% of all passenger cars, buses and trucks.



SET No. 1042

In Leatherette Roll
In Cardboard Box
Weight, 1.9 Lbs.

Eight "Superrenches"; 2 each of Nos. 1090, 1090D, 1092F and 1094, described on page 32 provide comprehensive service for tappet adjustment. Cover practically all passenger cars, buses and trucks. An ideal set for the automobile mechanic.



Set No. 106

"SUPERRENCH" TAPPET SETS

15° Angle, Single Head

Set No. 106

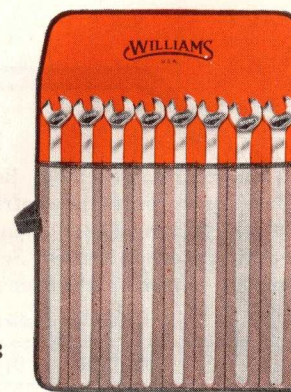
In Leatherette Roll
In Cardboard Box
Weight, 2 Lbs.

6 wrenches; 2 each of Nos. A100A, A100B and A101, described on page 34.

Set No. 108

In Leatherette Roll
In Cardboard Box
Weight, 2.7 Lbs.

8 wrenches; 2 each of Nos. A100, A100A, A100B and A101, described on page 34.



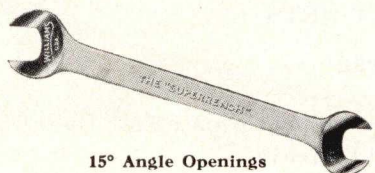
Set No. 108

See Page 34 for Individual Wrench Opening and Bolt Size Tabulation

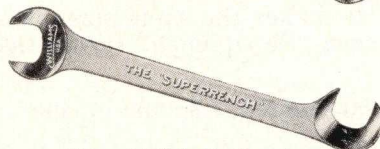
WILLIAMS' MIDGET "SUPERRENCHES"

Selected Alloy Steel

OPEN END PATTERN



15° Angle Openings



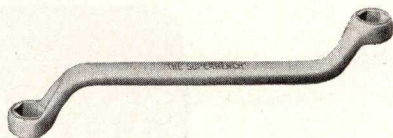
15° and 75° Angle Openings

Midget "Superrenches" are unusually thin and slim, but surprisingly tough and strong. On magnetos, generators, wiring-connections, carburetors, radios, all delicate adjustments and in the closest quarters, these wrenches are invaluable. Available in the two styles illustrated—forged from Selected Alloy Steel, heat-treated, chrome-plate over nickel, faces bright.

| No. | Nominal Openings | Extreme Length | Thickness Heads | Weight Lbs. | No. |
|--------------------------|---------------------|-------------------|--------------------|----------------|-------|
| 15° ANGLE OPENING | | | | | |
| 1106 | 13/64 & 7/32 | 3 | 3/32 | .01 | 1106 |
| 1107 | 15/64 & 1/4 | 3 | 3/32 | .01 | 1107 |
| 1108 | 9/32 & 11/32 | 3-1/2 | 1/8 | .03 | 1108 |
| 1108A | 1/4 & 5/16 | 3-1/2 | 1/8 | .03 | 1108A |
| 1109 | 5/16 & 3/8 | 3-1/2 | 1/8 | .03 | 1109 |

| | | | | | |
|-----------------------------|---------------|-------|------|-----|------|
| 15-75° ANGLE OPENING | | | | | |
| 1112 | 3/16 & 3/16 | 3 | 3/32 | .01 | 1112 |
| 1113 | 13/64 & 13/64 | | | .01 | 1113 |
| 1114 | 7/32 & 7/32 | | | .01 | 1114 |
| 1115 | 15/64 & 15/64 | | | .01 | 1115 |
| 1116 | 1/4 & 1/4 | | | .01 | 1116 |
| 1118 | 9/32 & 9/32 | 3-3/4 | 1/8 | .02 | 1118 |
| 1120 | 5/16 & 5/16 | | | .02 | 1120 |
| 1122 | 11/32 & 11/32 | | | .03 | 1122 |
| 1124 | 3/8 & 3/8 | | | .03 | 1124 |
| 1128 | 7/16 & 7/16 | 4-1/2 | 5/32 | .06 | 1128 |
| 1132 | 1/2 & 1/2 | | | .06 | 1132 |

6-POINT BOX MIDGET PATTERN

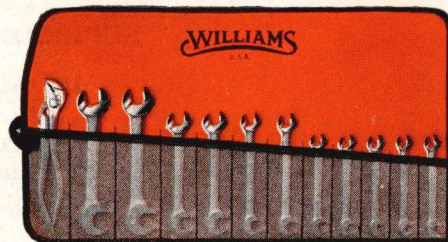


Midget Double Offset Box "Superrenches" are ideal for carburetor, electrical and ignition work. Offset design clears small obstructions where working space is limited. Selected Alloy Steel, heat-treated, chrome-plate over nickel, heads bright.

Fully Guaranteed

| No. | Nominal Openings | Extreme Length | Weight Lbs. | No. |
|------|---------------------|-------------------|----------------|------|
| 1150 | 13/64 & 3/16 | 2 7/8 | .02 | 1150 |
| 1151 | 15/64 & 7/32 | 3 1/8 | .03 | 1151 |
| 1152 | 9/32 & 1/4 | 3 3/8 | .04 | 1152 |
| 1153 | 11/32 & 5/16 | 3 3/4 | .06 | 1153 |

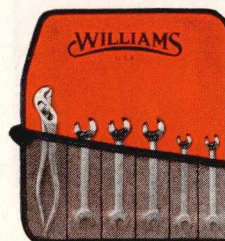
♦ REGISTERED TRADE MARK



SET No. 1141P

In Leatherette Roll
In Cardboard Box
Weight, .5 Lb.

Contains 11 Midget "Superrenches" Nos. 1112, 1113, 1114, 1115, 1116, 1118, 1120, 1122, 1124, 1128, 1132 and 1519 Midget "Superplier".



SET No. 1149P

With 1519 "Superplier"
In Leatherette Roll
In Cardboard Box
Weight, .25 Lb.

SET No. 1149

Without 1519 "Superplier"
In Leatherette Roll
In Cardboard Box
Weight, .13 Lb.

Handy assortment of 5 Midget "Superrenches" Nos. 1106, 1107, 1108, 1108A, 1109 and 1519 "Superplier".



SET No. 1154S

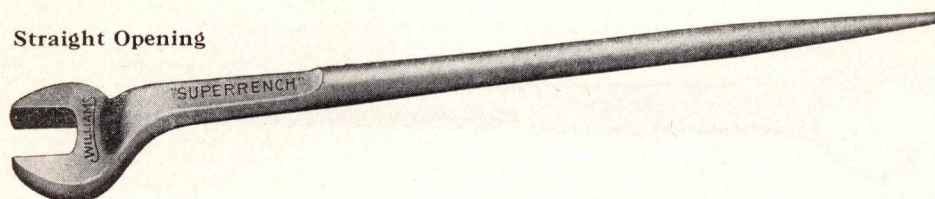
In Leatherette Roll
In Cardboard Box
Weight, .19 Lb.

Contains 4 Midget Box "Superrenches" Nos. 1150, 1151, 1152 and 1153.

WILLIAMS' "SUPERRENCHES"
Selected Alloy Steel

STRUCTURAL PATTERN

Straight Opening



These wrenches have been made especially to meet the needs of structural workers. The slim design provides ample strength and leverage without unnecessary weight and bulk.

The long, narrow jaws give substantially full bearing on square nuts. The round handle has tapered end for easy insertion into bolt holes when bringing same into line.

The abrupt offset and angle of handle provide for clearance of obstructions and safety to the operator's hands. The wrench is particularly well balanced. When thrust into scabbard or belt-loop, the "step-up" of the round above the flat part of handle acts as a stop, yet is readily released.

Especially adapted to heavy automotive work, where unusual leverage is required.

Tapered tang on end of handle is useful in locating and lining-up holes in frame, axle pads, fender bolt holes, etc.

Particularly serviceable on Anchor Nuts, Bendix Brakes—Axle-shaft Nuts—Bumper Bolts and Nuts, Bus and Truck—Frame Members—King-bolts and Nuts—Spring-clip ("U" Bolt) Nuts—Spring-shackle Bolts and Nuts—Tire and Luggage-carrier Bolts and Nuts, Bus and Truck—etc.

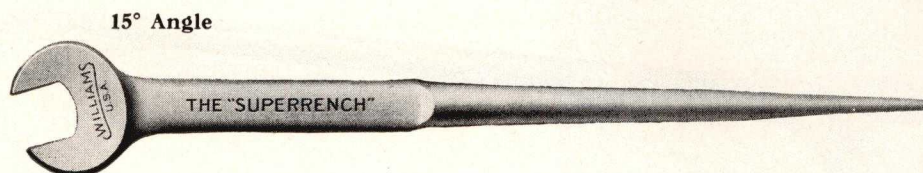
Drop-Forged from Selected Alloy Steel, heat-treated and finished in baked gray enamel all over.

| No. | Nominal Opening | For U. S. Std. Nut; Size Bolt | Amer. Std. Reg. Nut; Size Bolt | Extreme Length, Approx. | Thick-ness Head | Handle Offset | | Weight Each, Lbs. |
|-------|-----------------|-------------------------------|--------------------------------|-------------------------|-----------------|---------------|---------|-------------------|
| | | | | | | At Head | At End | |
| 1905 | 7/8 | 1/2 | 9/16 | 14 1/2 | 17/32 | 1 | 1 7/8 | 1.2 |
| 1906B | 1 | ..... | 5/8 | 14 1/2 | 17/32 | 1 | 1 7/8 | 1.2 |
| 1907 | 1 1/16 | 5/8 | ..... | 17 | 5/8 | 1 1/8 | 2 3/8 | 1.9 |
| 1907A | 1 1/8 | ..... | 3/4 | 17 | 5/8 | 1 1/8 | 2 3/8 | 1.9 |
| 1908 | 1 1/4 | 3/4 | ..... | 19 | 11/16 | 1 1/4 | 2 3/4 | 2.8 |
| 1908A | 1 5/16 | ..... | 7/8 | 19 | 11/16 | 1 1/4 | 2 3/4 | 2.8 |
| 1909 | 1 7/16 | 7/8 | ..... | 21 | 3/4 | 1 3/8 | 3 1/16 | 4.1 |
| 1909A | 1 1/2 | ..... | 1 | 21 | 3/4 | 1 3/8 | 3 1/16 | 4.1 |
| 1910 | 1 5/8 | 1 | ..... | 23 | 13/16 | 1 1/2 | 3 3/8 | 5.6 |
| 1910A | 1 11/16 | ..... | 1 1/8 | 23 | 13/16 | 1 1/2 | 3 3/8 | 5.6 |
| 1911 | 1 13/16 | 1 1/8 | ..... | 25 | 7/8 | 1 5/8 | 3 11/16 | 7.9 |
| 1911A | 1 7/8 | ..... | 1 1/4 | 25 | 7/8 | 1 5/8 | 3 11/16 | 7.9 |
| 1912 | 2 | 1 1/4 | ..... | 25 | 7/8 | 1 5/8 | 3 11/16 | 7.9 |

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERRENCHES"
Selected Alloy Steel

CONSTRUCTION PATTERN



These wrenches have been made especially to meet the needs of structural workers. The slim design provides ample strength and leverage without unnecessary weight and bulk.

The long, narrow jaws give substantially full bearing on square nuts. The round handle has tapered end for easy insertion into bolt holes when bringing same into line.

Especially adapted to heavy automotive work, where unusual leverage is required.

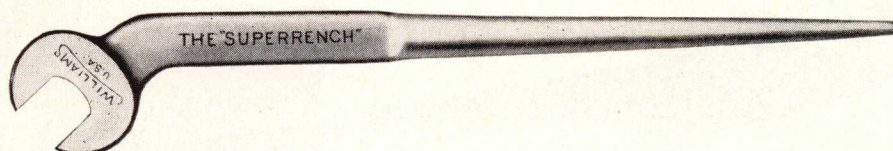
Tapered tang on end of handle is useful in locating and lining-up holes in frame, axle pads, fender bolt holes, etc.

Particularly serviceable on Anchor Nuts, Bendix Brakes — Axle-shaft Nuts — Bumper Bolts and Nuts, Bus and Truck — Frame Members — King-bolts and Nuts — Spring-clip ("U" Bolt) Nuts — Spring-shackle Bolts and Nuts — Tire and Luggage-carrier Bolts and Nuts, Bus and Truck — etc.

Drop-Forged from Selected Alloy Steel, heat-treated and finished in baked gray enamel all over.

| No. | Nominal Opening | For U. S. Std. Nut; Size Bolt | For S.A.E. Std. Nut and Cap Screw | For Amer. Std. Reg. Nut; Size Bolt | Extreme Length, Approx. | Weight Each, Lbs. |
|-------|-----------------|-------------------------------|-----------------------------------|------------------------------------|-------------------------|-------------------|
| 1205 | 7/8 | 1/2 | 9/16 | 9/16 | 14 1/2 | 1. |
| 1206B | 1 | | | 5/8 | 14 1/2 | 1. |
| 1207 | 1 1/16 | 5/8 | 3/4 | | 17 | 1.8 |
| 1207A | 1 1/8 | | | 3/4 | 17 | 1.8 |
| 1208 | 1 1/4 | 3/4 | 7/8 | | 19 | 2.7 |
| 1208A | 1 5/16 | | | 7/8 | 19 | 2.7 |
| 1209 | 1 7/16 | 7/8 | 1 | | 21 | 3.6 |
| 1209A | 1 1/2 | | | 1 | 21 | 3.6 |
| 1210 | 1 5/8 | 1 | 1 1/8 | | 23 | 5.1 |
| 1211 | 1 13/16 | 1 1/8 | 1 1/4 | | 25 | 7. |
| 1212 | 2 | 1 1/4 | 1 3/8 | | 25 | 7. |

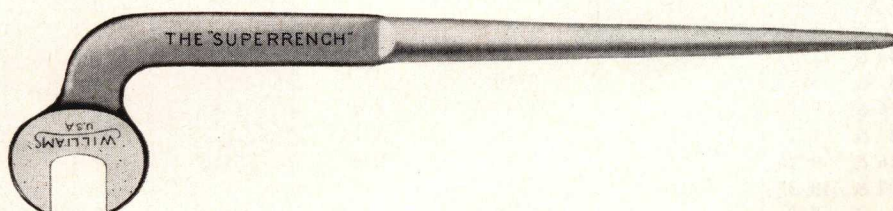
**WILLIAMS' "SUPERRENCHES"
15° ANGLE CONSTRUCTION PATTERN
45° BENT HANDLE**



These wrenches are particularly useful on flange and pipe line work in refineries, chemical plants and industries using processing equipment. Drop-Forged from Selected Alloy Steel, heat-treated and finished in baked gray enamel all over.

| No. | Nominal Opening | For U. S. Std. Nut; Size Bolt | For S.A.E. Std. Nut and Cap Screw | For Amer. Std. Reg. Nut; Size Bolt | Extreme Length, Approx. | Weight Each, Lbs. |
|--------|-----------------|-------------------------------|-----------------------------------|------------------------------------|-------------------------|-------------------|
| X-1205 | 7/8 | 1/2 | 9/16 | 9/16 | 14 | 1. |
| X-1207 | 1 1/16 | 5/8 | 3/4 | ..... | 16 1/2 | 1.8 |
| X-1208 | 1 1/4 | 3/4 | 7/8 | ..... | 18 1/2 | 2.7 |
| X-1209 | 1 7/16 | 7/8 | 1 | ..... | 20 3/8 | 3.6 |
| X-1210 | 1 5/8 | 1 | 1 1/8 | ..... | 22 1/4 | 5.1 |
| X-1211 | 1 13/16 | 1 1/8 | 1 1/4 | ..... | 24 | 7. |
| X-1212 | 2 | 1 1/4 | 1 3/8 | ..... | 24 | 7. |

**15° ANGLE CONSTRUCTION PATTERN
90° BENT HANDLE**



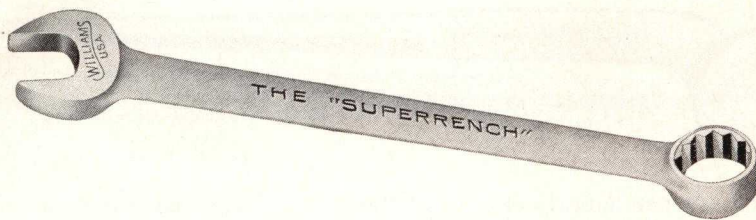
Drop-Forged from Selected Alloy Steel, heat-treated and finished in baked gray enamel all over.

| No. | Nominal Opening | For U. S. Std. Nut; Size Bolt | For S.A.E. Std. Nut and Cap Screw | For Amer. Std. Reg. Nut; Size Bolt | Extreme Length, Approx. | Weight Each, Lbs. |
|--------|-----------------|-------------------------------|-----------------------------------|------------------------------------|-------------------------|-------------------|
| Z-1205 | 7/8 | 1/2 | 9/16 | 9/16 | 12 | 1. |
| Z-1207 | 1 1/16 | 5/8 | 3/4 | ..... | 14 5/8 | 1.8 |
| Z-1208 | 1 1/4 | 3/4 | 7/8 | ..... | 16 3/8 | 2.7 |
| Z-1209 | 1 7/16 | 7/8 | 1 | ..... | 17 7/8 | 3.6 |
| Z-1210 | 1 5/8 | 1 | 1 1/8 | ..... | 19 1/2 | 5.1 |
| Z-1211 | 1 13/16 | 1 1/8 | 1 1/4 | ..... | 21 | 7. |
| Z-1212 | 2 | 1 1/4 | 1 3/8 | ..... | 21 | 7. |

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERRENCHES"
Selected Alloy Steel

OPEN END-BOX PATTERN
For Close Quarters



These long, slender "Superrenches", combining two styles of head are designed especially for use in close quarters and tight corners.

Open end is thin, with slim jaws and opening at angle of 15°.

Box end, with 12-point opening and thin walls, is offset from plane of handle; see illustration.

Same size opening in both heads; **where one can not operate, the other will.** Each rotates hex nuts when the wrench can swing only 30°.

Drop-forged from Selected Alloy Steel, heat-treated, chrome-plated; faces of open end buffed.

Sold individually and in Sets.

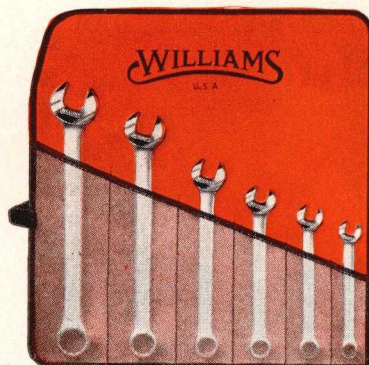
| No. | Nominal Openings | For Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | For Amer. Std. Hex Head Cap Screws; Diam. Screws | For Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | For Amer. Std. REGULAR Nuts; Size Bolts | Extreme Length, Approx. | Weight Each, Lbs. | No. |
|-------|------------------|--|--|--|---|-------------------------|-------------------|-------|
| 1158 | 1/4 & 1/4 | ..... | ..... | ..... | * No. 4 | 3 5/8 | | 1158 |
| 1159 | 5/16 & 5/16 | 1/8 | 1/8 | ..... | ..... | 4 3/8 | .05 | 1159 |
| 1159A | 11/32 & 11/32 | ..... | ..... | ..... | * No. 8 | 4 3/8 | .05 | 1159A |
| 1160 | 3/8 & 3/8 | ..... | 3/16 | ..... | ..... | 5 | .08 | 1160 |
| 1161 | 7/16 & 7/16 | ..... | 1/4 | 1/4 | 1/4 | 5 3/8 | .09 | 1161 |
| 1162 | 1/2 & 1/2 | 1/4 | 5/16 | 5/16 | ..... | 6 | .13 | 1162 |
| 1163 | 9/16 & 9/16 | ..... | 3/8 | 3/8 | 5/16 | 6 3/4 | .21 | 1163 |
| 1163A | 19/32 & 19/32 | 5/16 | ..... | ..... | ..... | 6 3/4 | .21 | 1163A |
| 1164 | 5/8 & 5/8 | ..... | 7/16 | 7/16 | 3/8 | 7 5/8 | .28 | 1164 |
| 1165 | 11/16 & 11/16 | 3/8 | ..... | ..... | ..... | 8 1/2 | .38 | 1165 |
| 1166 | 3/4 & 3/4 | ..... | 1/2 | 1/2 | 7/16 | 9 1/2 | .5 | 1166 |
| 1166A | 25/32 & 25/32 | 7/16 | ..... | ..... | ..... | 9 1/2 | .5 | 1166A |
| 1167A | 13/16 & 13/16 | ..... | 9/16 | ..... | 1/2 | 10 1/2 | .75 | 1167A |
| 1167 | 7/8 & 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 10 1/2 | .75 | 1167 |
| 1168 | 15/16 & 15/16 | 9/16 | ..... | 5/8 | ..... | 13 | 1.1 | 1168 |
| 1170 | 1 & 1 | ..... | 3/4 | ..... | 5/8 | 13 | 1.1 | 1170 |
| 1171 | 1 1/16 & 1 1/16 | 5/8 | ..... | 3/4 | ..... | 15 | 1.8 | 1171 |
| 1172 | 1 1/8 & 1 1/8 | ..... | 7/8 | ..... | 3/4 | 15 | 1.6 | 1172 |
| 1173 | 1 1/4 & 1 1/4 | 3/4 | ..... | 7/8 | ..... | 18 | 2.6 | 1173 |
| 1174 | 1 5/16 & 1 5/16 | ..... | 1 | ..... | 7/8 | 18 | 2.6 | 1174 |
| 1176A | 1 3/8 & 1 3/8 | ..... | ..... | ..... | ..... | 21 | 4. | 1176A |
| 1176 | 1 7/16 & 1 7/16 | 7/8 | ..... | 1 | ..... | 21 | 3.9 | 1176 |
| 1178 | 1 1/2 & 1 1/2 | ..... | 1 1/8 | ..... | 1 | 23 | | 1178 |
| 1180 | 1 5/8 & 1 5/8 | 1 | ..... | 1 1/8 | ..... | 25 | | 1180 |

* Amer. Std. Machine Screw and Stove Bolt Nuts.

♦ REGISTERED TRADE MARK

1-52

WILLIAMS' ♦ "SUPERRENCH" SETS
Selected Alloy Steel

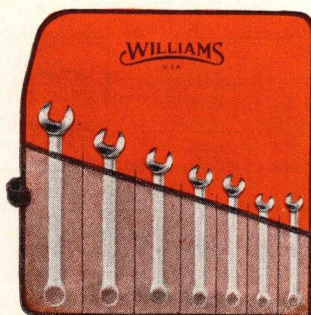


SET No. 1170S
In Leatherette Roll
In Cardboard Box

Weight, 2.2 Lbs.

CONTENTS

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.) | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nuts (S.A.E.) | Amer. Std. REGULAR Nuts | Length Approx. |
|------|------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------|----------------|
| 1161 | 7/16 & 7/16 | ..... | 1/4 | 1/4 | 1/4 | 5-3/8 |
| 1162 | 1/2 & 1/2 | 1/4 | 5/16 | 5/16 | ..... | 6 |
| 1163 | 9/16 & 9/16 | ..... | 3/8 | 3/8 | 5/16 | 6-3/4 |
| 1164 | 5/8 & 5/8 | ..... | 7/16 | 7/16 | 3/8 | 7-5/8 |
| 1166 | 3/4 & 3/4 | ..... | 1/2 | 1/2 | 7/16 | 9-1/2 |
| 1167 | 7/8 & 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 10-1/2 |



SET No. 1173S
In Leatherette Roll
In Cardboard Box

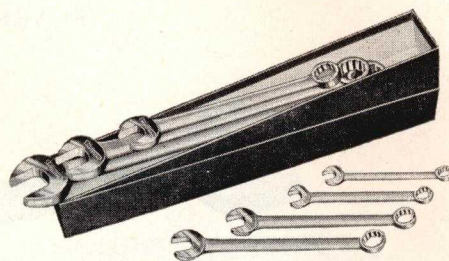
Weight, 1 Lb.

CONTENTS

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.) | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nuts (S.A.E.) | Amer. Std. REGULAR Nuts | Length Approx. |
|-------|------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------|----------------|
| 1159 | 5/16 & 5/16 | 1/8 | 1/8 | ..... | ..... | 4-3/8 |
| 1159A | 11/32 & 11/32 | ..... | ..... | ..... | *No. 8 | 4-3/8 |
| 1160 | 3/8 & 3/8 | ..... | 3/16 | ..... | ..... | 5 |
| 1161 | 7/16 & 7/16 | ..... | 1/4 | 1/4 | 1/4 | 5-3/8 |
| 1162 | 1/2 & 1/2 | 1/4 | 5/16 | 5/16 | ..... | 6 |
| 1163 | 9/16 & 9/16 | ..... | 3/8 | 3/8 | 5/16 | 6-3/4 |
| 1164 | 5/8 & 5/8 | ..... | 7/16 | 7/16 | 3/8 | 7-5/8 |

* Amer. Std. Machine Screw and Stove Bolt Nuts.

♦ REGISTERED TRADE MARK

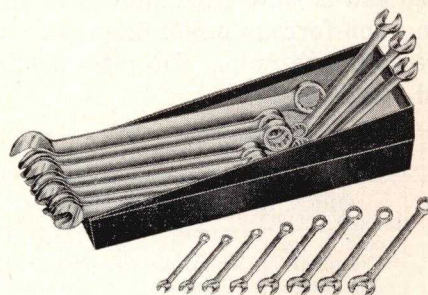


SET No. 1171S
In Cardboard Box

Weight, 6.6 lbs.

CONTENTS

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.) | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nuts (S.A.E.) | Amer. Std. REGULAR Nuts | Length Approx. |
|-------|------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------|----------------|
| 1162 | 1/2 & 1/2 | 1/4 | 5/16 | 5/16 | ..... | 6 |
| 1163A | 19/32 & 19/32 | 5/16 | ..... | ..... | ..... | 6-3/4 |
| 1165 | 11/16 & 11/16 | 3/8 | ..... | ..... | ..... | 8-1/2 |
| 1166A | 25/32 & 25/32 | 7/16 | ..... | ..... | ..... | 9-1/2 |
| 1167 | 7/8 & 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 10-1/2 |
| 1171 | 1-1/16 & 1-1/16 | 5/8 | ..... | 3/4 | ..... | 15 |
| 1173 | 1-1/4 & 1-1/4 | 3/4 | ..... | 7/8 | ..... | 18 |



SET No. 1172S
In Cardboard Box

Weight, 12.9 Lbs.

CONTENTS

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.) | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nuts (S.A.E.) | Amer. Std. REGULAR Nuts | Length Approx. |
|-------|------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------|----------------|
| 1159 | 5/16 & 5/16 | 1/8 | 1/8 | ..... | ..... | 4-3/8 |
| 1159A | 11/32 & 11/32 | ..... | ..... | ..... | *No. 8 | 4-3/8 |
| 1160 | 3/8 & 3/8 | ..... | 3/16 | ..... | ..... | 5 |
| 1161 | 7/16 & 7/16 | ..... | 1/4 | 1/4 | 1/4 | 5-3/8 |
| 1162 | 1/2 & 1/2 | 1/4 | 5/16 | 5/16 | ..... | 6 |
| 1163 | 9/16 & 9/16 | ..... | 3/8 | 3/8 | 5/16 | 6-3/4 |
| 1163A | 19/32 & 19/32 | 5/16 | ..... | ..... | ..... | 6-3/4 |
| 1164 | 5/8 & 5/8 | ..... | 7/16 | 7/16 | 3/8 | 7-5/8 |
| 1165 | 11/16 & 11/16 | 3/8 | ..... | ..... | ..... | 8-1/2 |
| 1166 | 3/4 & 3/4 | ..... | 1/2 | 1/2 | 7/16 | 9-1/2 |
| 1166A | 25/32 & 25/32 | 7/16 | ..... | ..... | ..... | 9-1/2 |
| 1167 | 7/8 & 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 10-1/2 |
| 1167A | 13/16 & 13/16 | ..... | 9/16 | ..... | 1/2 | 10-1/2 |
| 1168 | 15/16 & 15/16 | 9/16 | ..... | 5/8 | ..... | 13 |
| 1170 | 1 & 1 | ..... | 3/4 | ..... | 5/8 | 13 |
| 1171 | 1-1/16 & 1-1/16 | 5/8 | ..... | 3/4 | ..... | 15 |
| 1172 | 1-1/8 & 1-1/8 | ..... | 7/8 | ..... | 3/4 | 15 |
| 1173 | 1-1/4 & 1-1/4 | 3/4 | ..... | 7/8 | ..... | 18 |

WILLIAMS' ♦ "SUPERRENCHES"
Selected Alloy Steel

FLARE NUT PATTERN



Long and slender, these "Superrenches", combine two styles of head. They are designed especially for use on the non-ferrous flare nuts and fittings found on hydraulic and pneumatic tubing assemblies such as are encountered in air conditioning, automotive, aeronautical, diesel, marine and refrigeration work. Open-box end, has a 12-point opening off-set 15° from plane of handle with a tube opening slot at 22-1/2° to the axis of the handle. Thick head face is an assurance against marred fittings in final tightening.

Open end is thin, with slim jaws and opening at angle of 15°. Designed especially for holding non-ferrous union fittings found in tubing work and fast adjustment of flare nuts before final tightening. Drop-forged from Selected Alloy Steel, heat-treated and chrome-plated, heads buffed.

| No. | OPEN END | | OPEN-BOX END | | | | Extreme Length, Approx. | Weight Each, Lbs. |
|------|-----------------|----------------|-----------------|------------------|----------------|---------------------|-------------------------|-------------------|
| | Nominal Opening | Thickness Head | Nominal Opening | Outside Diameter | Thickness Head | Max. Tube Clearance | | |
| 1312 | 3/8 | 3/16 | 3/8 | 21/32 | 5/16 | 1/4 | 5 5/8 | .07 |
| 1314 | 7/16 | 13/64 | 7/16 | 25/32 | 11/32 | 9/32 | 6 | .1 |
| 1316 | 1/2 | 7/32 | 1/2 | 29/32 | 7/16 | 3/8 | 6 3/8 | .17 |
| 1318 | 9/16 | 15/64 | 9/16 | 31/32 | 7/16 | 7/16 | 6 7/8 | .19 |
| 1320 | 5/8 | 1/4 | 5/8 | 1 1/64 | 1/2 | 15/32 | 7 5/8 | .25 |
| 1322 | 11/16 | 5/16 | 11/16 | 1 9/32 | 9/16 | 9/16 | 8 3/4 | .44 |
| 1324 | 3/4 | 5/16 | 3/4 | 1 9/32 | 9/16 | 9/16 | 8 3/4 | .44 |
| 1328 | 7/8 | 11/32 | 7/8 | 1 7/16 | 5/8 | 11/16 | 9 1/4 | .54 |
| 1332 | 1 | 3/8 | 1 | 1 19/32 | 11/16 | 3/4 | 9 7/8 | .69 |
| 1334 | 1 1/16 | 7/16 | 1 1/16 | 1 25/32 | 3/4 | 27/32 | 10 3/4 | 1. |
| 1336 | 1 1/8 | 7/16 | 1 1/8 | 1 25/32 | 3/4 | 27/32 | 10 3/4 | 1. |

WILLIAMS' "SUPERRENCHES"
Selected Alloy Steel

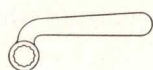
REGULAR 12-POINT BOX PATTERN FOR CLOSE QUARTERS

12-Point Opening — 7-1/2° Angle



These "Superrenches" with thin head walls, are particularly efficient in close quarters and for general service. They grip nuts on six sides and prevent slipping. Will rotate hex nuts where the wrench can be swung only 15°—HALF the space required by conventional wrenches. Drop-forged from Selected Alloy Steel—heat-treated.

Finish—Chrome-plate over nickel, heads bright.



Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge; see illustration.

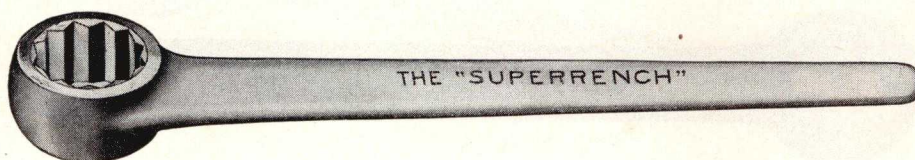
| No. | Nominal Opening Across Flats | For Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Amer. Std. Hex Head Cap Screw; Diam. Screw | For Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | For Amer. Std. REGULAR Nut; Size Bolt | Ex- treme Length Approx. | Head | | Wgt. Each, Lbs. |
|-------|---------------------------------------|--|--|--|---|-----------------------------------|----------------|------------------|-----------------------|
| | | | | | | | Thick- ness | Outside Diam. | |
| 1800A | 7/16 | ..... | 1/4 | 1/4 | 1/4 | 3 1/2 | 7/32 | 45/64 | .07 |
| 1801 | 1/2 | 1/4 | 5/16 | 5/16 | ..... | 4 | 17/64 | 27/32 | .11 |
| 1802A | 9/16 | ..... | 3/8 | 3/8 | 5/16 | 4 7/8 | 5/16 | 31/32 | .19 |
| 1802 | 19/32 | 5/16 | ..... | ..... | ..... | 4 7/8 | 5/16 | 63/64 | .19 |
| 1803A | 5/8 | ..... | 7/16 | 7/16 | 3/8 | 5 7/8 | 23/64 | 1 1/16 | .31 |
| 1803 | 11/16 | 3/8 | ..... | ..... | ..... | 5 7/8 | 23/64 | 1 9/64 | .31 |
| 1804A | 3/4 | ..... | 1/2 | 1/2 | 7/16 | 6 7/8 | 13/32 | 1 1/4 | .36 |
| 1804 | 25/32 | 7/16 | ..... | ..... | ..... | 6 7/8 | 13/32 | 1 9/32 | .36 |
| 1805A | 13/16 | ..... | 9/16 | ..... | 1/2 | 7 3/4 | 29/64 | 1 23/64 | .45 |
| 1805 | 7/8 | 1/2 | 5/8 | 9/16 | 9/16 | 7 3/4 | 29/64 | 1 27/64 | .45 |
| 1806 | 15/16 | 9/16 | ..... | 5/8 | ..... | 8 3/4 | 1/2 | 1 19/32 | .68 |
| 1806B | 1 | ..... | 3/4 | ..... | 5/8 | 8 3/4 | 1/2 | 1 19/32 | .68 |
| 1807 | 1 1/16 | 5/8 | ..... | 3/4 | ..... | 9 7/8 | 9/16 | 1 25/32 | .89 |
| 1807A | 1 1/8 | ..... | 7/8 | ..... | 3/4 | 9 7/8 | 9/16 | 1 25/32 | .89 |
| 1808 | 1 1/4 | 3/4 | ..... | 7/8 | ..... | 11 1/2 | 9/16 | 2 1/16 | 1.5 |
| 1808A | 1 5/16 | ..... | 1 | ..... | 7/8 | 11 1/2 | 9/16 | 2 1/16 | 1.5 |
| 1809 | 1 7/16 | 7/8 | ..... | 1 | ..... | 13 3/8 | 21/32 | 2 3/8 | 1.9 |
| 1809A | 1 1/2 | ..... | 1 1/8 | ..... | 1 | 13 3/8 | 21/32 | 2 3/8 | 1.9 |
| 1810 | 1 5/8 | 1 | ..... | 1 1/8 | ..... | 15 1/4 | 3/4 | 2 5/8 | 2.9 |
| 1810A | 1 11/16 | ..... | 1 1/4 | ..... | 1 1/8 | 15 1/4 | 3/4 | 2 5/8 | 2.9 |
| 1811 | 1 13/16 | 1 1/8 | ..... | 1 1/4 | ..... | 17 | 13/16 | 2 29/32 | 3.1 |
| 1811A | 1 7/8 | ..... | ..... | ..... | 1 1/4 | 17 | 13/16 | 2 29/32 | 3.1 |
| 1812 | 2 | 1 1/4 | ..... | 1 3/8 | ..... | 19 | 15/16 | 3 1/4 | 4.3 |

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERRENCHES"
Selected Alloy Steel

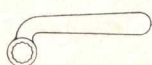
HEAVY 12-POINT BOX PATTERN FOR CLOSE QUARTERS

12-Point Opening— $7\frac{1}{2}^\circ$ Angle



These "Superrenches" with thin head walls, are particularly efficient in close quarters and for general service. They grip nuts on six sides and prevent slipping. Will rotate hex nuts where the wrench can be swung only 15° —HALF the space required by conventional wrenches. Drop-forged from Selected Alloy Steel—heat-treated.

Finish — Chrome-plate over nickel, heads bright.



Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge; see illustration.

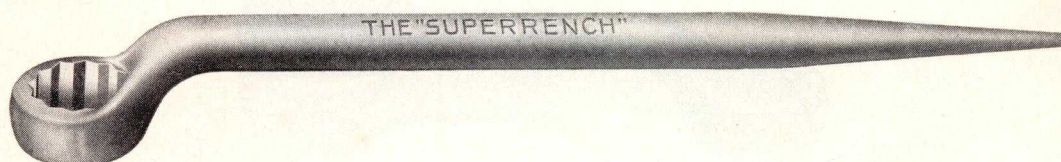
| No. | Nominal Opening Across Flats | For Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Amer. Std. Hex Head Cap Screw; Diam. Screw | For Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | For Amer. Std. REGULAR Nut; Size Bolt | Ex- treme Length Approx. | Head | | Wgt. Each, Lbs. |
|--------|---------------------------------------|--|--|--|---|-----------------------------------|----------------|------------------|-----------------------|
| | | | | | | | Thick- ness | Outside Diam. | |
| H1808 | 1 1/4 | 3/4 | ..... | 7/8 | ..... | 11 1/2 | 13/16 | 2 1/16 | 1.6 |
| H1808A | 1 5/16 | ..... | 1 | ..... | 7/8 | 11 1/2 | 13/16 | 2 1/16 | 1.6 |
| H1809 | 1 7/16 | 7/8 | ..... | 1 | ..... | 13 3/8 | 15/16 | 2 3/8 | 2.3 |
| H1809A | 1 1/2 | ..... | 1 1/8 | ..... | 1 | 13 3/8 | 15/16 | 2 3/8 | 2.3 |
| H1810 | 1 5/8 | 1 | ..... | 1 1/8 | ..... | 15 1/4 | 1 1/8 | 2 5/8 | 3.1 |
| H1810A | 1 11/16 | ..... | 1 1/4 | ..... | 1 1/8 | 15 1/4 | 1 1/8 | 2 5/8 | 3.1 |
| H1811 | 1 13/16 | 1 1/8 | ..... | 1 1/4 | ..... | 17 | 1 1/4 | 2 15/16 | 3.8 |
| H1811A | 1 7/8 | ..... | ..... | ..... | 1 1/4 | 17 | 1 1/4 | 2 15/16 | 3.8 |
| H1812 | 2 | 1 1/4 | ..... | 1 3/8 | ..... | 19 | 1 3/8 | 3 1/4 | 5.4 |
| H1813 | 2 3/16 | 1 3/8 | ..... | 1 1/2 | ..... | 21 | 1 1/2 | 3 1/2 | 6.5 |
| H1813A | 2 1/4 | ..... | ..... | ..... | 1 1/2 | 21 | 1 1/2 | 3 1/2 | 6.5 |
| H1814 | 2 3/8 | 1 1/2 | ..... | ..... | ..... | 23 | 1 5/8 | 3 3/4 | 7.8 |
| H1815 | 2 9/16 | 1 5/8 | ..... | ..... | ..... | 25 | 1 3/4 | 4 1/8 | 10.3 |
| H1815A | 2 5/8 | ..... | ..... | ..... | 1 3/4 | 25 | 1 3/4 | 4 1/8 | 10.3 |
| H1816 | 2 3/4 | 1 3/4 | ..... | ..... | ..... | 27 | 1 7/8 | 4 9/16 | 12.5 |
| H1817A | 3 | ..... | ..... | ..... | 2 | 30 | 2 | 4 13/16 | 16.3 |
| H1817 | 3 1/8 | 2 | ..... | ..... | ..... | 30 | 2 | 4 13/16 | 16.3 |

WILLIAMS' ♦ "SUPERRENCHES"

Selected Alloy Steel

STRUCTURAL BOX PATTERN

With 12-Point Openings



This Williams' Structural Box "Superrench" is designed to bring greater safety to structural work. The 12-point Box Head insures a firm hold on the nut and it is offset to give maximum clearance. The long sturdy tapered handle provides ample strength and leverage, and can easily be inserted into bolt holes to bring them into line.

These rugged wrenches are also adapted to heavy industrial and automotive work where unusual leverage is necessary.

Drop-forged from Selected Alloy Steel, heat-treated, and finished in baked gray enamel all over.

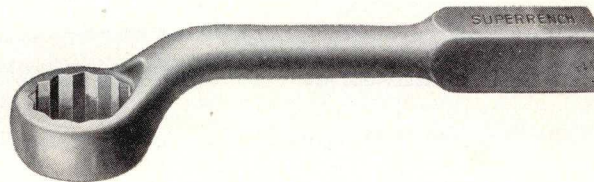
| No. | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Extreme Length, Approx. | Head | | Handle Offset | | Weight Each, Lbs. |
|-------|-----------------|--|-------------------------|-----------|------------------|---------------|---------|-------------------|
| | | | | Thickness | Outside Diameter | At Head | At End | |
| 8905A | 13/16 | ..... | 12 | 5/8 | 1 15/32 | 1 1/8 | 1 25/32 | 1.2 |
| 8905 | 7/8 | 1/2 | 12 | 5/8 | 1 15/32 | 1 1/8 | 1 25/32 | 1.2 |
| 8906 | 15/16 | 9/16 | 12 | 3/4 | 1 5/8 | 1 1/4 | 1 61/64 | 1.4 |
| 8906B | 1 | ..... | 12 | 3/4 | 1 5/8 | 1 1/4 | 1 61/64 | 1.4 |
| 8907 | 1 1/16 | 5/8 | 15 | 13/16 | 1 53/64 | 1 5/16 | 2 9/64 | 2.1 |
| 8907A | 1 1/8 | ..... | 15 | 13/16 | 1 53/64 | 1 5/16 | 2 9/64 | 2.1 |
| 8908 | 1 1/4 | 3/4 | 17 | 7/8 | 2 5/64 | 1 7/16 | 2 21/64 | 2.5 |
| 8908A | 1 5/16 | ..... | 17 | 7/8 | 2 5/64 | 1 7/16 | 2 21/64 | 2.5 |
| 8909 | 1 7/16 | 7/8 | 21 | 1 | 2 3/8 | 1 1/2 | 2 3/4 | 3.8 |
| 8909A | 1 1/2 | ..... | 21 | 1 | 2 3/8 | 1 1/2 | 2 3/4 | 3.8 |
| 8910 | 1 5/8 | 1 | 22 | 1 1/16 | 2 5/8 | 1 5/8 | 2 7/8 | 4.6 |
| 8910A | 1 11/16 | ..... | 22 | 1 1/16 | 2 5/8 | 1 5/8 | 2 7/8 | 4.6 |
| 8911 | 1 13/16 | 1 1/8 | 23 | 1 1/8 | 2 29/32 | 1 11/16 | 3 | 5.8 |
| 8911A | 1 7/8 | ..... | 23 | 1 1/8 | 2 29/32 | 1 11/16 | 3 | 5.8 |
| 8912 | 2 | 1 1/4 | 24 1/2 | 1 1/4 | 3 5/32 | 1 13/16 | 3 5/32 | 6.5 |
| 8913 | 2 3/16 | 1 3/8 | 26 | 1 3/8 | 3 15/32 | 2 | 3 1/2 | 8.4 |
| 8914 | 2 3/8 | 1 1/2 | 28 | 1 1/2 | 3 23/32 | 2 1/8 | 3 11/16 | 9.5 |
| 8915 | 2 9/16 | 1 5/8 | 30 | 1 5/8 | 3 29/32 | 2 1/4 | 3 13/16 | 10.6 |
| 8916 | 2 3/4 | 1 3/4 | 30 | 1 3/4 | 4 5/32 | 2 3/8 | 3 29/32 | 12.1 |

NOTE: These Wrenches can be supplied with heads bent up to 90° right or left of handle at extra charge.

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERRENCHES"
Selected Alloy Steel

STRIKING FACE BOX—OFFSET PATTERN
With 12-Point Openings



The Striking Face Box "Superrench" is particularly well adapted for heavy industrial and automotive work in close quarters where large nuts must be set up tight or frozen nuts loosened.

Offset head gives ample nut clearance. Drop-forged from Selected Alloy Steel, properly heat-treated to withstand the necessary shocks. Finished in baked gray enamel all over.

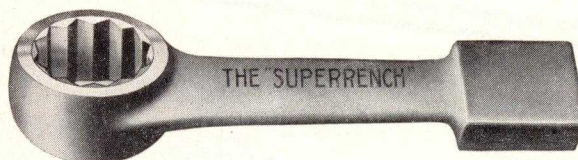
| No. | Nominal Opening | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | Ex-treme Length, Approx. | Head | | Weight Each, Lbs. |
|-------|-----------------|--|--|-----------------------------------|--------------------------|------------|------------------|-------------------|
| | | | | | | Thick-ness | Outside Diameter | |
| 8807 | 1 1/16 | 5/8 | 3/4 | ..... | 10 1/2 | 13/16 | 1 27/32 | 2.2 |
| 8807A | 1 1/8 | ..... | ..... | 3/4 | 10 1/2 | 13/16 | 1 27/32 | 2.2 |
| 8808 | 1 1/4 | 3/4 | 7/8 | ..... | 11 | 7/8 | 2 3/32 | 2.6 |
| 8808A | 1 5/16 | ..... | ..... | 7/8 | 11 | 7/8 | 2 3/32 | 2.6 |
| 8809 | 1 7/16 | 7/8 | 1 | ..... | 11 1/2 | 1 | 2 3/8 | 3.6 |
| 8809A | 1 1/2 | ..... | ..... | 1 | 11 1/2 | 1 | 2 3/8 | 3.6 |
| 8810 | 1 5/8 | 1 | 1 1/8 | ..... | 12 | 1 1/16 | 2 5/8 | 3.9 |
| 8810A | 1 11/16 | ..... | ..... | 1 1/8 | 12 | 1 1/16 | 2 5/8 | 3.9 |
| 8811 | 1 13/16 | 1 1/8 | 1 1/4 | ..... | 12 1/2 | 1 1/8 | 2 29/32 | 5.4 |
| 8811A | 1 7/8 | ..... | ..... | 1 1/4 | 12 1/2 | 1 1/8 | 2 29/32 | 5.4 |
| 8812 | 2 | 1 1/4 | 1 3/8 | ..... | 13 | 1 1/4 | 3 5/32 | 5.5 |
| 8813 | 2 3/16 | 1 3/8 | 1 1/2 | ..... | 13 1/2 | 1 3/8 | 3 15/32 | 7.2 |
| 8813A | 2 1/4 | ..... | ..... | 1 1/2 | 13 1/2 | 1 3/8 | 3 15/32 | 7.2 |
| 8814 | 2 3/8 | 1 1/2 | ..... | ..... | 14 | 1 1/2 | 3 23/32 | 7.9 |
| 8815 | 2 9/16 | 1 5/8 | ..... | ..... | 14 1/2 | 1 5/8 | 3 29/32 | 9.7 |
| 8815A | 2 5/8 | ..... | ..... | 1 3/4 | 14 1/2 | 1 5/8 | 3 29/32 | 9.7 |
| 8816 | 2 3/4 | 1 3/4 | ..... | ..... | 15 | 1 3/4 | 4 5/32 | 10.8 |
| 8816B | 2 15/16 | 1 7/8 | ..... | ..... | 16 | 1 7/8 | 4 21/32 | 10.8 |
| 8817A | 3 | ..... | ..... | 2 | 16 1/2 | 2 | 4 15/16 | 11.9 |
| 8817 | 3 1/8 | 2 | ..... | ..... | 16 1/2 | 2 | 4 15/16 | 11.9 |

WILLIAMS' ♦ "SUPERRENCHES"

Selected Alloy Steel

HEAVY STRIKING FACE 12-POINT BOX PATTERN

12-Point Opening—7-1/2° Angle—For Close Quarters



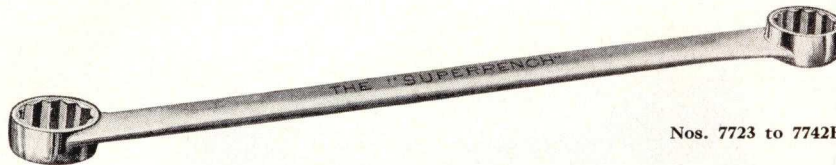
These Striking Face "Superrenches," with thin head walls, are particularly efficient in close quarters where large nuts must be set up tight, or frozen nuts loosened. They grip nuts on six sides and prevent slipping. The heads, approximately as thick as the nuts they handle, afford extra strength and full bearing in severe service. Will rotate hex nuts where the wrench can be swung only 15°—HALF the space required by conventional wrenches. Drop-forged from Selected Alloy Steel—heat-treated. Finished in baked gray enamel all over.

| No. | Nominal Opening Across Flats | For Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Amer. Std. Hex Head Cap Screw; Diam. Screw | For Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | For Amer. Std. REGULAR Nut; Size Bolt | Ex-treme Length, Approx. | Head | | Wgt. Each, Lbs. |
|-----------|------------------------------|--|--|--|---------------------------------------|--------------------------|------------|---------------|-----------------|
| | | | | | | | Thick-ness | Outside Diam. | |
| SFH-1808 | 1 1/4 | 3/4 | ..... | 7/8 | ..... | 7 | 13/16 | 2 1/16 | 1.4 |
| SFH-1808A | 1 5/16 | ..... | 1 | ..... | 7/8 | 7 | 13/16 | 2 1/16 | 1.4 |
| SFH-1809 | 1 7/16 | 7/8 | ..... | 1 | ..... | 8 | 15/16 | 2 3/8 | 2.1 |
| SFH-1809A | 1 1/2 | ..... | 1 1/8 | ..... | 1 | 8 | 15/16 | 2 3/8 | 2.1 |
| SFH-1810 | 1 5/8 | 1 | ..... | 1 1/8 | ..... | 9 | 1 1/8 | 2 5/8 | 3. |
| SFH-1810A | 1 11/16 | ..... | 1 1/4 | ..... | 1 1/8 | 9 | 1 1/8 | 2 5/8 | 3. |
| SFH-1811 | 1 13/16 | 1 1/8 | ..... | 1 1/4 | ..... | 10 | 1 1/4 | 2 15/16 | 3.9 |
| SFH-1811A | 1 7/8 | ..... | ..... | ..... | 1 1/4 | 10 | 1 1/4 | 2 15/16 | 3.9 |
| SFH-1812 | 2 | 1 1/4 | ..... | 1 3/8 | ..... | 11 | 1 3/8 | 3 1/4 | 5.5 |
| SFH-1813 | 2 3/16 | 1 3/8 | ..... | 1 1/2 | ..... | 12 | 1 1/2 | 3 1/2 | 6.8 |
| SFH-1813A | 2 1/4 | ..... | ..... | ..... | 1 1/2 | 12 | 1 1/2 | 3 1/2 | 6.8 |
| SFH-1814 | 2 3/8 | 1 1/2 | ..... | ..... | ..... | 13 | 1 5/8 | 3 3/4 | 8.2 |
| SFH-1815 | 2 9/16 | 1 5/8 | ..... | ..... | ..... | 14 | 1 3/4 | 4 1/8 | 10.8 |
| SFH-1815A | 2 5/8 | ..... | ..... | ..... | 1 3/4 | 14 | 1 3/4 | 4 1/8 | 10.8 |
| SFH-1816 | 2 3/4 | 1 3/4 | ..... | ..... | ..... | 15 | 1 7/8 | 4 9/16 | 13.5 |
| SFH-1817A | 3 | ..... | ..... | ..... | 2 | 17 | 2 | 4 13/16 | 18.2 |
| SFH-1817 | 3 1/8 | 2 | ..... | ..... | ..... | 17 | 2 | 4 13/16 | 18.2 |

♦ REGISTERED TRADE MARK

WILLIAMS' 12-POINT BOX "SUPERRENCHES"
Selected Alloy Steel

15° ANGLE OFFSET PATTERNS



These 12-Point Box "Superrenches" are particularly well adapted to work in close quarters. Thin head walls permit use where clearance is extremely limited. The openings grip hex nuts on six sides, preventing all slipping and rounding of the nuts' corners. The Long Pattern provides unusual reach and leverage.

Each head has a 12-point opening; consequently, hex nuts can be completely rotated where the swing of the wrench is limited to 30°—less than 1/10 of a full turn.

Drop-forged from Selected Alloy Steel, heat-treated, chrome plate over nickel, heads bright.

| No. | Nominal Openings | For Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | For Amer. Std. Hex Head Cap Screws; Diam. Screws | For Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | For Amer. Std. REGULAR Nuts; Size Bolts | Extreme Length, Approx. | Weight Each, Lbs. | No. |
|--|------------------|--|--|--|---|-------------------------|-------------------|-------|
| LONG PATTERN—Different Opening in Each Head | | | | | | | | |
| 7723 | 3/8 & 7/16 | 3/16 & 1/4 | 3/16 & 1/4 | 1/4 & 5/16 | 1/4 | 7 3/8 | .13 | 7723 |
| 7023 | 13/32 & 1/2 | 3/16 & 1/4 | 3/16 & 1/4 | 1/4 & 5/16 | 1/4 | 7 3/4 | .16 | 7023 |
| 7725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 7 3/4 | .16 | 7725 |
| 7725A | 7/16 & 9/16 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 8 1/4 | .22 | 7725A |
| 7725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 8 1/4 | .22 | 7725B |
| 7025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | 5/16 | 8 1/4 | .22 | 7025 |
| 7727 | 9/16 & 5/8 | 5/16 & 3/8 | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 9 1/4 | .31 | 7727 |
| 7027 | 19/32 & 11/16 | 5/16 & 3/8 | 7/16 | 7/16 | 3/8 | 10 1/2 | .51 | 7027 |
| 7727A | 5/8 & 11/16 | 3/8 | 7/16 | 7/16 | 3/8 | 10 1/2 | .48 | 7727A |
| 7729 | 5/8 & 3/4 | 3/8 | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | 10 1/2 | .48 | 7729 |
| 7029B | 11/16 & 3/4 | 3/8 | 1/2 | 1/2 | 7/16 | 10 1/2 | .51 | 7029B |
| 7029 | 11/16 & 25/32 | 3/8 & 7/16 | 1/2 | 1/2 | 7/16 | 10 1/2 | .51 | 7029 |
| 7729A | 3/4 & 25/32 | 7/16 | 1/2 | 1/2 | 7/16 | 12 | .66 | 7729A |
| 7030 | 11/16 & 7/8 | 3/8 & 1/2 | 5/8 | 9/16 | 9/16 | 12 | .66 | 7030 |
| 7731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 12 | .66 | 7731A |
| 7031B | 25/32 & 13/16 | 7/16 | 9/16 | 9/16 | 1/2 | 12 | .66 | 7031B |
| 7031 | 25/32 & 7/8 | 7/16 & 1/2 | 5/8 | 9/16 | 9/16 | 12 | .66 | 7031 |
| 7731B | 13/16 & 7/8 | 1/2 | 9/16 & 5/8 | 9/16 | 1/2 & 9/16 | 12 | .66 | 7731B |
| 7033A | 7/8 & 15/16 | 1/2 & 9/16 | 5/8 | 9/16 & 5/8 | 9/16 | 13 3/4 | .95 | 7033A |
| 7733 | 7/8 & 1 | 1/2 | 5/8 & 3/4 | 9/16 | 9/16 & 5/8 | 13 3/4 | .95 | 7733 |
| 7033C | 15/16 & 1 | 9/16 | 3/4 | 5/8 | 5/8 | 13 3/4 | .95 | 7033C |
| 7034 | 7/8 & 1 1/16 | 1/2 & 5/8 | 5/8 | 9/16 & 3/4 | 9/16 | 15 1/2 | 1.2 | 7034 |
| 7034A | 15/16 & 1 1/16 | 9/16 & 5/8 | 5/8 | 5/8 & 3/4 | 5/8 | 15 1/2 | 1.3 | 7034A |
| 7735 | 1 & 1 1/8 | 5/8 | 3/4 & 7/8 | 3/4 | 5/8 & 3/4 | 17 1/4 | 2. | 7735 |
| 7735A | 1 1/16 & 1 1/8 | 5/8 | 7/8 | 3/4 | 3/4 | 17 1/4 | 2. | 7735A |
| 7037 | 1 1/16 & 1 1/4 | 5/8 & 3/4 | 7/8 | 3/4 & 7/8 | 3/4 & 7/8 | 17 1/4 | 1.8 | 7037 |
| 7037A | 1 1/8 & 1 5/16 | 7/8 | 1 | 3/4 & 7/8 | 3/4 & 7/8 | 19 | 2.4 | 7037A |
| 7039B | 1 1/4 & 1 5/16 | 3/4 | 1 | 7/8 | 7/8 | 19 | 2.4 | 7039B |
| 7039 | 1 1/4 & 1 7/16 | 3/4 & 7/8 | 1 | 7/8 & 1 | 7/8 | 19 | 2.4 | 7039 |
| 7039A | 1 5/16 & 1 1/2 | 1 | 1 & 1 1/8 | 7/8 & 1 | 7/8 & 1 | 19 | 2.4 | 7039A |
| 7040B | 1 7/16 & 1 1/2 | 7/8 | 1 1/8 | 1 | 1 | 21 | 5.6 | 7040B |
| 7041 | 1 7/16 & 1 5/8 | 7/8 & 1 | 1 1/8 | 1 & 1 1/8 | 1 | 23 | 5.6 | 7041 |
| 7742B | 1 1/2 & 1 11/16 | 1 1/8 & 1 1/4 | 1 1/8 | 1 & 1 1/8 | 1 | 23 | 5.6 | 7742B |

DROP-FORGINGS AND WILLIAMS DROP-FORGED TOOLS

WILLIAMS' 12-POINT BOX "SUPERRENCHES" Selected Alloy Steel

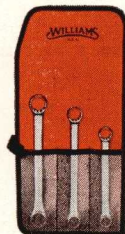
15° ANGLE OFFSET PATTERNS



Nos. 6723 to 6727

| No. | Nominal Openings | For Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | For Amer. Std. Hex Head Cap Screws; Diam. Screws | For Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | For Amer. Std. REGULAR Nuts; Size Bolts | Extreme Length, Approx. | Weight Each, Lbs. | No. |
|--|------------------|--|--|--|---|-------------------------|-------------------|-------|
| SHORT PATTERN—Different Opening in Each Head | | | | | | | | |
| 6723 | 3/8 & 7/16 | ..... | 3/16 & 1/4 | 1/4 | 1/4 | 4 1/2 | .08 | 6723 |
| 6725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5 1/2 | .11 | 6725 |
| 6725A | 7/16 & 9/16 | ..... | 1/4 & 3/8 | 1/4 & 3/8 | 1/4 & 5/16 | 5 1/2 | .14 | 6725A |
| 6725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 5 1/2 | .14 | 6725B |
| 6025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | 5/16 | 5 1/2 | .14 | 6025 |
| 6727 | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 | .18 | 6727 |

12-POINT BOX "SUPERRENCH" SETS Selected Alloy Steel



SET No. 6703

In Leatherette Roll
In Cardboard Box
Weight, .44 Lb.

CONTENTS

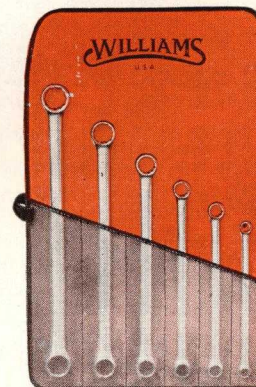
| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.) | Amer. Std. Hex Head Cap Screws | Amer. Std. LIGHT Nuts (S.A.E.) | Amer. Std. REGULAR Nuts | Length Approx. |
|------|------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------|----------------|
| 6723 | 3/8 & 7/16 | ..... | 3/16 & 1/4 | 1/4 | 1/4 | 4-1/2 |
| 6725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5-1/2 |
| 6727 | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 |

SET No. 7006

In Leatherette Roll
In Cardboard Box
Weight, 3.4 Lbs.

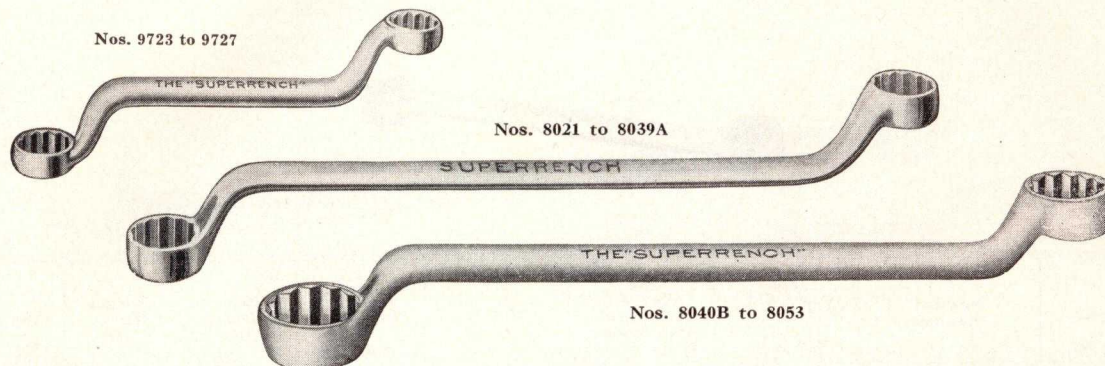
CONTENTS

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.) | Amer. Std. Hex Head Cap Screws | Amer. Std. LIGHT Nuts (S.A.E.) | Amer. Std. REGULAR Nuts | Length Approx. |
|-------|------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------|----------------|
| 7723 | 3/8 & 7/16 | ..... | 3/16 & 1/4 | 1/4 | 1/4 | 7-3/8 |
| 7025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | 5/16 | 8-1/4 |
| 7727 | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 9-1/4 |
| 7029 | 11/16 & 25/32 | 3/8 & 7/16 | 5/8 | 5/8 | 5/8 | 10-1/2 |
| 7731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 5/8 | 1/2 & 5/8 | 12 |
| 7033C | 15/16 & 1 | 9/16 | 3/4 | 5/8 | 5/8 | 13-3/4 |



WILLIAMS' 12-POINT BOX "SUPERRENCHES"
Selected Alloy Steel

DOUBLE OFFSET PATTERNS



These 12-Point Box "Superrenches" are particularly well adapted to work in close quarters. Thin head walls permit use where clearance is extremely limited. The openings grip hex nuts on six sides, preventing all slipping and rounding of the nuts' corners. The Long Pattern provides unusual reach and leverage.

Each head has a 12-point opening; consequently, hex nuts can be completely rotated where the swing of the wrench is limited to 30°—less than 1/10 of a full turn.

Ideal for use on Connecting Rods, Main Bearings, Base, Cylinder Heads, Spring Clips and in awkward places.

Drop-forged from Selected Alloy Steel, heat-treated, chrome plate over nickel, heads bright. Nos. 8040B through 8053, Baked Gray enamel. Supplied in Whitworth Standard and Metric sizes also; see page 215.

| No. | Nominal Openings | For Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | For Amer. Std. Hex Head Cap Screws; Diam. Screws | For Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | For Amer. Std. REGULAR Nuts; Size Bolts | Extreme Length, Approx. | Weight Each, Lbs. | No. |
|---|------------------|--|--|--|---|-------------------------|-------------------|-------|
| LONG PATTERN—Different Opening in Each Head | | | | | | | | |
| 8021 | 5/16 & 13/32 | 1/8 & 3/16 | 1/8 | ..... | ..... | 7 1/4 | .18 | 8021 |
| 8723 | 3/8 & 7/16 | ..... | 3/16 & 1/4 | 1/4 | 1/4 | 7 3/4 | .26 | 8723 |
| 8023 | 13/32 & 1/2 | 3/16 & 1/4 | 5/16 | 5/16 | ..... | 8 1/4 | .37 | 8023 |
| 8725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 8 1/4 | .37 | 8725 |
| 8725A | 7/16 & 9/16 | ..... | 1/4 & 3/8 | 1/4 & 3/8 | 1/4 & 5/16 | 8 3/4 | .43 | 8725A |
| 8725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 8 3/4 | .43 | 8725B |
| 8025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | ..... | 8 3/4 | .43 | 8025 |
| 8727 | 9/16 & 5/8 | ..... | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 9 3/4 | .59 | 8727 |
| 8027 | 19/32 & 11/16 | 5/16 & 3/8 | 7/16 | 7/16 | 3/8 | 11 | .84 | 8027 |
| 8727A | 5/8 & 11/16 | 3/8 | 7/16 | 7/16 | ..... | 11 | .8 | 8727A |
| 8729 | 5/8 & 3/4 | ..... | 7/16 & 1/2 | 7/16 & 1/2 | 3/8 & 7/16 | 11 | .8 | 8729 |
| 8029B | 11/16 & 3/4 | 3/8 | 1/2 | 1/2 | 7/16 | 11 | .84 | 8029B |
| 8029 | 11/16 & 25/32 | 3/8 & 7/16 | ..... | ..... | ..... | 11 | .84 | 8029 |
| 8729A | 3/4 & 25/32 | 7/16 | 1/2 | 1/2 | 7/16 | 12 1/2 | 1. | 8729A |
| 8030 | 11/16 & 7/8 | 3/8 & 1/2 | 5/8 | 9/16 | 9/16 | 12 1/2 | 1. | 8030 |
| 8731 | 3/4 & 13/16 | ..... | 1/2 & 9/16 | 1/2 | 7/16 & 1/2 | 12 1/2 | 1. | 8731 |
| 8731A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 12 1/2 | 1. | 8731A |
| 8031B | 25/32 & 13/16 | 7/16 | 9/16 | ..... | 1/2 | 12 1/2 | 1. | 8031B |
| 8031 | 25/32 & 7/8 | 7/16 & 1/2 | 5/8 | 9/16 | 9/16 | 12 1/2 | 1. | 8031 |
| 8731B | 13/16 & 7/8 | 1/2 | 9/16 & 5/8 | 9/16 | 1/2 & 9/16 | 12 1/2 | 1. | 8731B |
| 8033A | 7/8 & 15/16 | 1/2 & 9/16 | 5/8 | 9/16 & 5/8 | 9/16 | 13 1/2 | 1.1 | 8033A |
| 8733 | 7/8 & 1 | 1/2 | 5/8 & 3/4 | 9/16 | 9/16 & 5/8 | 13 1/2 | 1.4 | 8733 |
| 8033C | 15/16 & 1 | 9/16 | 3/4 | 5/8 | 5/8 | 14 1/2 | 1.1 | 8033C |
| 8034 | 7/8 & 1 1/16 | 1/2 & 5/8 | 5/8 | 9/16 & 3/4 | 9/16 | 15 1/2 | 1.3 | 8034 |
| 8034A | 15/16 & 1 1/16 | 9/16 & 5/8 | ..... | 5/8 & 3/4 | ..... | 15 1/2 | 1.3 | 8034A |
| 8735 | 1 & 1 1/8 | ..... | 3/4 & 7/8 | ..... | 5/8 & 3/4 | 17 | 2.3 | 8735 |
| 8735A | 1 1/16 & 1 1/8 | 5/8 | 7/8 | 3/4 | 3/4 | 17 | 2.3 | 8735A |
| 8037 | 1 1/16 & 1 1/4 | 5/8 & 3/4 | ..... | 3/4 & 7/8 | ..... | 17 | 2.1 | 8037 |
| 8037A | 1 1/8 & 1 5/16 | 7/8 & 1 | ..... | 3/4 & 7/8 | 3/4 & 7/8 | 19 | 3.3 | 8037A |
| 8039B | 1 1/4 & 1 5/16 | 3/4 | 1 | 7/8 | 7/8 | 19 | 3.3 | 8039B |
| 8039 | 1 1/4 & 1 7/16 | 3/4 & 7/8 | ..... | 7/8 & 1 | ..... | 19 | 3.3 | 8039 |
| 8039A | 1 5/16 & 1 1/2 | ..... | 1 & 1 1/8 | ..... | 7/8 & 1 | 19 | 3.3 | 8039A |

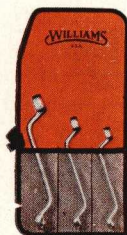
DROP-FORGINGS AND **WILLIAMS** DROP-FORGED TOOLS

WILLIAMS' 12-POINT BOX "SUPERRENCHES" Selected Alloy Steel

DOUBLE OFFSET PATTERNS

| No. | Nominal Openings | For Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts | For Amer. Std. Hex Head Cap Screws; Diam. Screws | For Amer. Std. LIGHT Nuts (S.A.E.); Size Bolts | For Amer. Std. REGULAR Nuts; Size Bolts | Extreme Length, Approx. | Weight Each, Lbs. | No. |
|---|------------------|--|--|--|---|-------------------------|-------------------|-------|
| FOR HEAVY SERVICE—LONG PATTERN—Round Handle | | | | | | | | |
| 8040B | 1 7/16 & 1 1/2 | 7/8 | 1 1/8 | 1 | 1 | 21 | 6.3 | 8040B |
| 8041 | 1 7/16 & 1 5/8 | 7/8 & 1 | 1 1/8 & 1 1/4 | 1 & 1 1/8 | 1 & 1 1/8 | 23 | 5.7 | 8041 |
| 8742B | 1 1/2 & 1 11/16 | 1 1/8 & 1 1/4 | 1 1/4 & 1 3/8 | 1 & 1 1/8 | 1 & 1 1/8 | 23 | 5.8 | 8742B |
| 8045 | 1 13/16 & 2 | 1 1/8 & 1 1/4 | 1 1/4 & 1 3/8 | 1 & 1 1/8 | 1 & 1 1/8 | 25 | 8.5 | 8045 |
| 8049 | 2 3/16 & 2 3/8 | 1 3/8 & 1 1/2 | 1 1/2 | | | 27 | 10.2 | 8049 |
| 8053 | 2 9/16 & 2 3/4 | 1 5/8 & 1 3/4 | | | | 30 | 14.7 | 8053 |
| SHORT PATTERN—Different Opening in Each Head | | | | | | | | |
| 9723 | 3/8 & 7/16 | 1/4 | 3/16 & 1/4 | 1/4 | 1/4 | 4 1/2 | .1 | 9723 |
| 9725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5 | .19 | 9725 |
| 9725A | 7/16 & 9/16 | 1/4 | 1/4 & 3/8 | 1/4 & 3/8 | 1/4 & 5/16 | 5 1/2 | .22 | 9725A |
| 9725B | 1/2 & 9/16 | 1/4 | 5/16 & 3/8 | 5/16 & 3/8 | 5/16 | 5 1/2 | .22 | 9725B |
| 9025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | 5/16 | 5 1/2 | .22 | 9025 |
| 9727 | 9/16 & 5/8 | 3/8 & 7/16 | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 | .29 | 9727 |

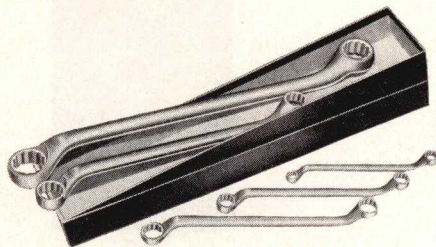
12-POINT BOX "SUPERRENCH" SETS Selected Alloy Steel



SET No. 9703
In Leatherette Roll
In Cardboard Box
Weight, .44 Lb.

CONTENTS

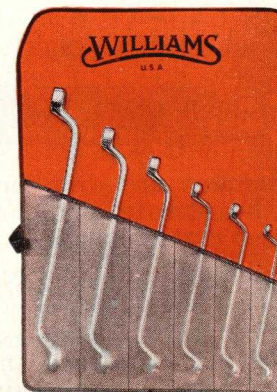
| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.) | Amer. Std. Hex Head Cap Screws | Amer. Std. LIGHT Nuts (S.A.E.) | Amer. Std. REGULAR Nuts | Length Approx. |
|------|------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------|----------------|
| 9723 | 3/8 & 7/16 | 1/4 | 3/16 & 1/4 | 1/4 | 1/4 | 4-1/2 |
| 9725 | 7/16 & 1/2 | 1/4 | 1/4 & 5/16 | 1/4 & 5/16 | 1/4 | 5-1/2 |
| 9727 | 9/16 & 5/8 | | 3/8 & 7/16 | 3/8 & 7/16 | 5/16 & 3/8 | 6 |



SET No. 8005A
In Cardboard Box
Weight, 10.6 Lbs.

CONTENTS

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.) | Amer. Std. Hex Head Cap Screws | Amer. Std. LIGHT Nuts (S.A.E.) | Length Approx. |
|-------|------------------|--------------------------------|--------------------------------|--------------------------------|----------------|
| 8025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | 8-3/4 |
| 8029 | 11/16 & 25/32 | 3/8 & 7/16 | 5/8 | 9/16 & 5/8 | 11 |
| 8033A | 7/8 & 15/16 | 1/2 & 9/16 | 5/8 | 3/4 & 7/8 | 13-1/2 |
| 8037 | 1-1/16 & 1-1/4 | 5/8 & 3/4 | | 1 & 1-1/8 | 17 |
| 8041 | 1-7/16 & 1-5/8 | 7/8 & 1 | | | 23 |



SET No. 8006
In Leatherette Roll
In Cardboard Box
Weight, 3.4 Lbs.

CONTENTS

| No. | Nominal Openings | Amer. Std. HEAVY Nuts (U.S.S.) | Amer. Std. Hex Head Cap Screws | Amer. Std. LIGHT Nuts (S.A.E.) | Amer. Std. REGULAR Nuts | Length Approx. |
|-------|------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------|----------------|
| 8723 | 3/8 & 7/16 | 1/4 | 3/16 & 1/4 | 1/4 | 1/4 | 7-3/4 |
| 8025 | 1/2 & 19/32 | 1/4 & 5/16 | 5/16 | 5/16 | 5/16 | 8-3/4 |
| 8029 | 11/16 & 25/32 | 3/8 & 7/16 | 5/8 | 9/16 & 5/8 | 3/8 & 7/16 | 9-3/4 |
| 8037 | 1-1/16 & 1-1/4 | 5/8 & 3/4 | | 1 & 1-1/8 | | 11 |
| 8741A | 3/4 & 7/8 | 1/2 | 1/2 & 5/8 | 1/2 & 9/16 | 7/16 & 9/16 | 12-1/2 |
| 8033C | 15/16 & 1 | 9/16 | 3/4 | 5/8 | 5/8 | 14-1/2 |

DROP-FORGINGS AND WILLIAMS DROP-FORGED TOOLS

WILLIAMS' "MULTISOCKET" WRENCH EIGHT-IN-ONE



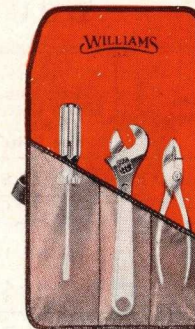
No. 1999
8 Different 12-Point Openings
 Small Head; 7/16, 1/2, 9/16, 19/32"
 Large Head; 5/8, 11/16, 3/4, 7/8"
 Weight, 1.2 Lbs.

The openings grip hex nuts on six sides; no slipping or rounding of the nuts' corners.

Swivel heads, with index spring to retain working opening in position for use, permit handle to be operated at practically any angle desired. Can be used as a socket wrench.

The entire wrench is drop-forged, heat-treated and finished in zinc plate. Length, 9 inches.

WILLIAMS' GENERAL PURPOSE UTILITY SET



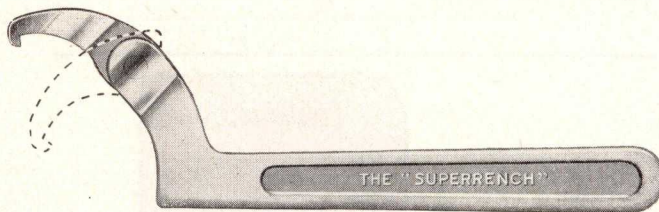
SET No. APS-3

Complete in Leatherette Roll or Cardboard Box
 Total Weight, 1.3 Lbs.

An ideal set for numerous small jobs around home and office. Also for general automobile use. Convenient size for glove compartment.

Contains one each No. 24 4" Screw Driver with plastic handle, 8 in. "Superjustable" Wrench and No. 6 6" Combination Slip-joint Pliers.

WILLIAMS' ADJUSTABLE HOOK SPANNERS Selected Alloy Steel



These Spanners are drop-forged from Selected Alloy Steel, heat-treated and chrome-plated, face of jaw and raised part of handle buffed bright.

Sold individually, or in Set No. 1400. Especially serviceable on Spindle Bearings of Lathes, Milling and Grinding Machines, Rear Axle Shaft and Wheel Bearings, Exhaust Manifold Gland Nuts, Differential Pinion Gear, Water-Pump Packing Nuts, etc. Also, for adjusting collars and slotted rings used on many types of automatic machines.



SET No. 1400

In Leatherette Roll
In Cardboard Box
 Weight, 1.8 Lbs.

| No. | Capacity for Circles, Diameter | Extreme Length, Approx. | Thickness | | Depth Hook | Weight Each, Lbs. | No. |
|------|--------------------------------|-------------------------|-----------|-------|------------|-------------------|------|
| | | | Handle | Hook | | | |
| 1471 | 3/4 to 2 | 6 3/8 | 1/4 | 11/32 | 1/8 | .28 | 1471 |
| 1472 | 1 1/4 to 3 | 8 1/8 | 9/32 | 13/32 | 5/32 | .54 | 1472 |
| 1474 | 2 to 4 3/4 | 11 3/8 | 5/16 | 15/32 | 3/16 | .94 | 1474 |

1-52

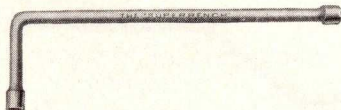
WILLIAMS' SPECIAL ♦ "SUPERRENCHES"
Selected Alloy Steel

FOR FORD CARS AND TRUCKS

"SUPERRENCH"

Selected Alloy Steel

**For Ford V-8 60 H.P.
Connecting Rods**



No. S-231

Length, 11-1/2" Offset, 3"

Weight, 1.1 Lbs.

Heat-treated and Chrome-plated

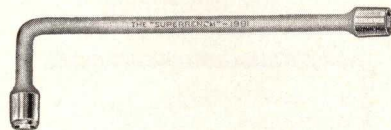
Spin nuts till engaged (short arm for lever); reverse wrench and tighten (long arm for lever).

6-Point Openings, 7/16 and 7/16". Special thin design sockets to handle clearance problem on all Ford V-8 60 H.P. motor, 1937-'40.

"SUPERRENCH"

Selected Alloy Steel

**For Ford V-8, 6 and Mercury
Connecting Rods**



No. 1981-A

Length, 11-1/2" Offset, 3"

Weight, .84 Lb.

Heat-treated and Chrome-plated

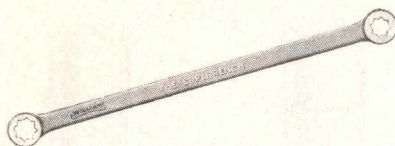
Spin nuts till engaged (short arm for lever); reverse wrench and tighten (long arm for lever).

6-Point Openings, 9/16 and 9/16". Special thin design sockets to handle clearance problem on all Ford 6, all Ford V-8 (except 60 H.P.) and all Mercury connecting rod nuts. Very handy for manifold nuts and valve cap covers. Also useful for the connecting rod nuts on other automobiles.

"SUPERRENCH"

Selected Alloy Steel

**For Adjusting
Ford Mechanical Brakes**



No. 1984-X

7/16 and 1/2" 8-Point Openings

Length, 11-1/4" Thickness Heads, 7/16"

Weight, .53 Lb.

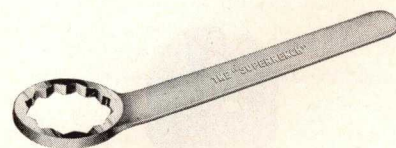
Heat-treated and Chrome-plated

The only wrench required for adjusting brakes on Ford "A", "B", all V-8, 1932-'38; also Ford "AA" and all V-8 trucks, 1932-'38.

"SUPERRENCH"

Selected Alloy Steel

**For Ford and Mercury
Crankcase Drain Plugs**



No. 1966-A

2" 12-Point Opening

Length, 11"

Weight, .96 Lb.

Heat-treated and Chrome-plated

Required for drain plug service on all 1939-'48 Ford V-8 and Mercury cars.

♦ REGISTERED TRADE MARK

For other Special "Superrenches", see following pages.

WILLIAMS' SPECIAL "SUPERRENCHES"

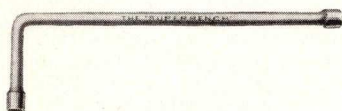
Selected Alloy Steel

FOR FORD CARS AND TRUCKS

"SUPERRENCH"

Selected Alloy Steel

**For Ford V-8 60 H.P.
Main Bearings**



No. S-243

21/32 and 21/32" 6-Point Openings

Length, 11-1/2" Offset, 3"

Weight, .87 Lb.

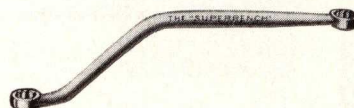
Heat-treated and Chrome-plated

Special thin design sockets to handle clearance problem on all main bearing screws Ford V-8 60 H.P., 1937-'40. Also connecting rod nuts on all Ford models "A", "B" and "T".

"SUPERRENCH"

Selected Alloy Steel

**For Ford 6, V-8, Mercury
and Lincoln Distributors**



No. SV-244

1/2 and 1/2" 12-Point Openings

Length, 9" Offset, 2-1/4"

Weight, .37 Lb.

Heat-treated and Chrome-plated

Specially offset to clear fan-belt. A big time saver in servicing distributors on Ford 6, 1941-'47; V-8, 1937-'48; Mercury, 1939-'48; Lincoln Zephyr, 1937-'42; and Lincoln, 1946-'48. Also a very useful tool on all Ford V-8 fuel pumps and carburetors.

**WILLIAMS'
FORD CRANK RATCHET SOCKET**

Selected Alloy Steel

For

All Ford Cars and Trucks 1928-'42



No. V-132

1-3/8" 6-Point Opening

Weight, .28 Lb.

Heat-treated and Cadmium-plated

Serves lower fan-pulley nut, necessary in dropping oil pan, without removing radiator. Designed for use with regular Ford starting crank.

For all Ford cars and trucks 1928-'37, all Ford trucks 1938-'42, 1946. Cut away for clearance.

**WILLIAMS'
STANDARD "SUPERSOCKETS"**

Selected Alloy Steel

For

Ford Cars and Trucks



***No. SF-618**

9/16" 6-Point Opng.

1/2" Square Drive

Weight, .13 Lb.

Heat-treated and Chrome-plated

Use with Torque Wrench required on models having "Marsden" self-locking nuts.

For all Ford 6, Ford-Mercury V-8, 85 H.P., 90 H.P. and 100 H.P. Connecting Rods.

*Not guaranteed because of extra thin walls.



***No. SF-1218**

9/16" 12-Point Opng.

WILLIAMS' "SUPERRENCHES" AND PLIERS

Selected Alloy Steel

FOR AUTOMOTIVE BRAKE SERVICE

"SUPERRENCH"

Selected Alloy Steel

For Eccentric Adjustments



No. 1983

Openings 3/16 & 1/4", Length 9", Thick. Hds. 1/4"
Weight, .15 Lb.

Heat-treated and Chrome-plated

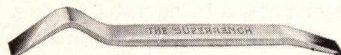
For Eccentric Cam, Lockheed, Hydraulic and Bendix mechanical brakes.

"SUPERRENCH"

Selected Alloy Steel

For

Star Nut, Etc. — Bendix Hydraulic



No. 1998-B

Blade Tips, 5/64 x 15/32"
Length, 8"

Weight, .19 Lb.

Heat-treated and Chrome-plated

Specially offset to service Star Nut Eccentric, all Bendix Hydraulic.

"SUPERRENCH"

Selected Alloy Steel

For

Slotted Anchor Pins, Etc.



No. 1997

Length, 6". Blade Tips, 1/16 x 13/32"
Weight, .18 Lb.

Heat-treated and Chrome-plated

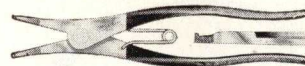
For slotted anchor pins, drag links, steering post and other jobs where regular screw drivers cannot be used. Also excellent as a glazier's tool.

♦ REGISTERED TRADE MARK

WILLIAMS' LOCK RING PLIERS

Selected Alloy Steel

For Snap Lock Rings



No. 1515

Length, 8"

Weight, .33 Lb.

Gun metal blue handles, nose polished

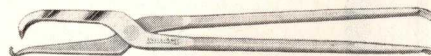
Heat-treated

Pliers are designed for spreading "Horse Shoe" snap lock rings on automotive brakes, transmissions, differentials, pulleys, etc.

WILLIAMS' BRAKE PLIERS

Selected Alloy Steel

For Brake-Shoe Springs



No. 1517

Length, 13"

Weight, .75 Lb.

Gray satin finish; head faces polished

Heat-treated

For inserting and removing springs (internal). For use only on passenger cars and light and medium trucks excepting Ford "A".

For other Special "Superrenches", see following page.

WILLIAMS' SPECIAL ♦ "SUPERRENCHES"

Selected Alloy Steel

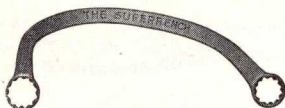
FOR STARTER AND MANIFOLD

"SUPERRENCH"

Selected Alloy Steel

For

Starter and Manifold Nuts



No. 1960

9/16 and 5/8" 12-Point Openings—Length, 7"

Weight, .21 Lb.

Heat-treated and Chrome-plated

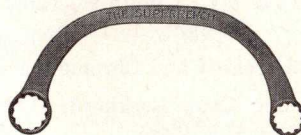
For starter and manifold nuts, all models Chrysler and Dodge; DeSoto and Plymouth. Also very useful for starters and manifolds on many other passenger automobiles.

"SUPERRENCH"

Selected Alloy Steel

For

Chevrolet Starter Nuts



No. 1961

5/8 and 3/4" 12-Point Openings

Length, 7-1/2"

Weight, .34 Lb.

Heat-treated and Chrome-plated

For starter nuts, all Chevrolet models, 1930-'48. Also very useful for starters on many other passenger automobiles.

WILLIAMS' SPECIAL "SUPERSOCKET"

Selected Alloy Steel

For Cadillac Connecting Rod



No. SC-614

1/2" Square Drive

7/16" 6-Point Opening

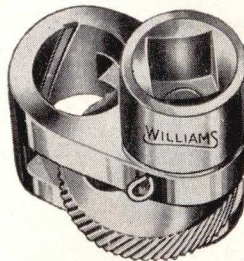
3-1/8" Long

Weight, .30 Lb.

The Cadillac Connecting Rod Nut requires an unusually strong socket for servicing. Made from selected alloy steel, heat-treated and chrome-plated. Services all model Cadillacs, 1937-'48.

WILLIAMS' STUD REMOVER

Selected Alloy Steel



No. S-60B

1/2" Square Drive

Stud Capacity

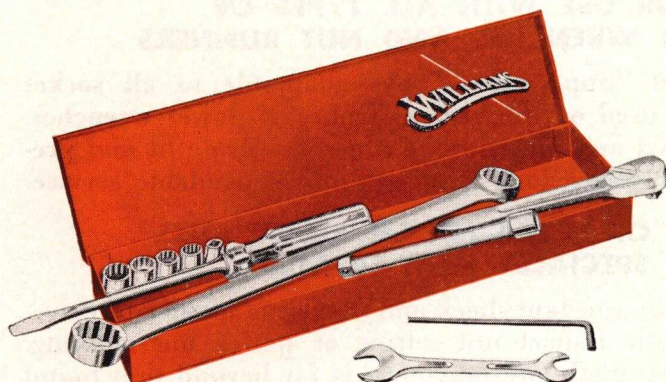
1/4" to 3/4" Diameter

Weight, .52 Lb.

This Stud Remover is designed for use with 1/2" square drive handles and attachments. It is equally efficient for removing or setting studs.

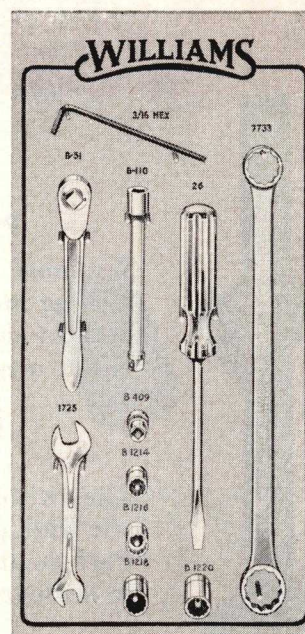
Eccentrically mounted roller with deep milled edge provides a non-slipping, gripping surface which is non-burring. Stud capacity, 1/4" to 3/4" diameter. Made from selected alloy steel, heat-treated and chrome-plated.

WILLIAMS' AUTOMATIC TRANSMISSION SETS



No. ATS-1

Steel Case, 1-3/8 x 3-1/2 x 14-1/4"
Total Weight, 3.8 lbs.



No. ATS-2

Plywood Panel, 1/2 x 9-1/2 x 19"
Total Weight, 4.5 lbs.

These sets were designed to facilitate oil-change work on automatic transmissions such as Hydra-Matic, Dyna-Flo, Power Glide, Ultramatic, Fluid Drive and Studebaker Automatic transmissions. Set may be purchased in metal case or plywood panel as illustrated.

Contents — either set

| Quan. | No. | Description | Use |
|-------|--------|---------------------------------------|---|
| 1 | B-409 | Socket—9/32" Square Opening..... | Torque Converter Drain Plug (Dynaflow) |
| 1 | B-1214 | Socket—7/16" 12 Pt. Opening..... | Hydramatic Fluid Coupling Drain Plug |
| 1 | B-1216 | Socket—1/2" 12 Pt. Opening..... | Flywheel Cover Bolts |
| 1 | B-1218 | Socket—9/16" 12 Pt. Opening..... | Flywheel Cover Bolts |
| 1 | B-1220 | Socket—5/8" 12 Pt. Opening..... | For Hex Head Converter Drain Plug (Studebaker) |
| 1 | B-110 | Extension..... | 3/8" male for (Power Glide) Housing Plug |
| 1 | B-51 | Reversible Ratchet..... | 3/8" male for (Power Glide) Housing Plug |
| 1 | 26 | 6" Round Blade Screw Driver..... | For Rotating Flywheels |
| 1 | 7733 | 15° Offset Box Wrench—7/8 & 1" Op'ngs | For Dynaflow Transmission Oil Pan Plug |
| 1 | A1725 | Open End Wrench—7/16 & 1/2" Op'ngs | For Transmission Pipe Plug |
| 1 | 3/16" | Hexagon Key Wrench—4-1/2" long..... | For old type Fluid Coupling Drain Plug (Hydramatic) |

IMPACT

"SUPERSOCKETS"

FOR USE WITH ALL TYPES OF POWER WRENCHES AND NUT RUNNERS

Williams' Impact "Supersockets" are adaptable to all socket locking methods used on the various makes of power wrenches, both of the impact and nut running types. Accurate fit and precision machining assure long life, safe and dependable service.

MADE OF EXTRA-TOUGH ALLOY STEEL SPECIALLY HEAT-TREATED

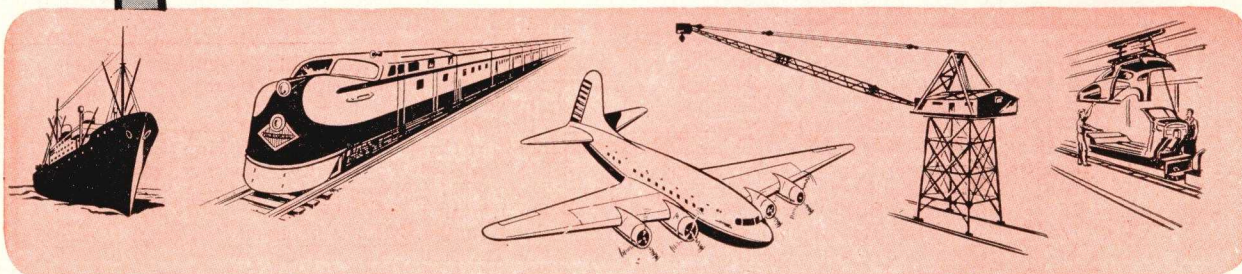
They withstand the constant shock and pounding involved in electric and pneumatic impact nut setting or power nut running. Performance in strength and toughness is far beyond that found in ordinary power sockets.

ALSO CAN BE USED WITH WILLIAMS' HAND SOCKET DRIVERS

Williams' Impact "Supersockets" will fit and can be used on Williams' Hand Socket Drivers where corresponding drive sizes are available. This use is recommended for applications where sockets of extra strength and toughness seem to be indicated.

7 SQUARE DRIVE SIZES OVER 300 SOCKETS AND ACCESSORIES

Impact "Supersockets" are available with hex openings from 3/16" to 2-3/4" and 8-point openings from 5/16" to 1-1/4". A wide selection is offered in standard and bolt clearance lengths for all types of power wrench work found in manufacturing plants, shipyards, locomotive and railroad shops, automotive service, radio, television and similar assembly work, etc.



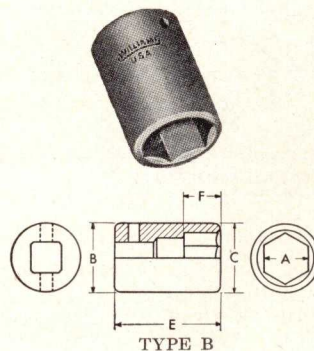
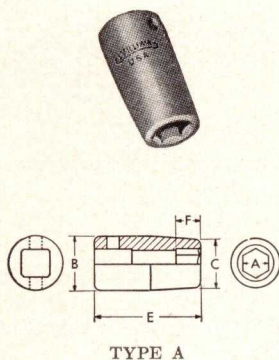
1-52

WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

"O" SERIES — STANDARD LENGTH

1/4" SQUARE DRIVE

(Male Square .250-.252 Female Square .253-.255)



| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|--------------------|-----|--|--|--|--|------|--------------------|----------------------------|--------------------|------------------------|-----------------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-----------|---|------|------|------|-----|------|
| 3/16 | 0-606 | ..... | ..... | ..... | †2 & 3 | A | .194 | .440 | .362 | 7/8 | .197 |
| 7/32 | 0-607 | ..... | ..... | ..... | ..... | A | .226 | .440 | .409 | 7/8 | .213 |
| 1/4 | 0-608 | ..... | ..... | ..... | †4 | B | .257 | .440 | .440 | 7/8 | .228 |
| 9/32 | 0-609 | ..... | ..... | ..... | ..... | A | .289 | .503 | .471 | 7/8 | .244 |
| 5/16 | 0-610 | 1/8 | 1/8 | ..... | †5 & 6 | B | .321 | .503 | .503 | 7/8 | .260 |
| 11/32 | 0-611 | ..... | ..... | ..... | †8 | B | .353 | .503 | .503 | 7/8 | .291 |
| 3/8 | 0-612 | ..... | 3/16 | ..... | †10 | B | .384 | .565 | .565 | 7/8 | .322 |
| 7/16 | 0-614 | ..... | 1/4 | 1/4 | 1/4 & †12 | B | .447 | .628 | .628 | 7/8 | .322 |

STANDARD LENGTH — DOUBLE SQUARE (8 PT.) OPENING FOR SQUARE NUTS

Finish — Rust Resistant

| | | | | | | | | | | | |
|------|-------|-------|-------|-------|-----------|---|------|------|------|-----|------|
| 5/16 | 0-810 | 1/8 | ..... | ..... | †5 & 6 | B | .321 | .534 | .534 | 7/8 | .260 |
| 3/8 | 0-812 | ..... | ..... | ..... | †10 | B | .384 | .628 | .628 | 7/8 | .322 |
| 7/16 | 0-814 | ..... | ..... | 1/4 | 1/4 & †12 | B | .447 | .815 | .815 | 7/8 | .322 |

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.

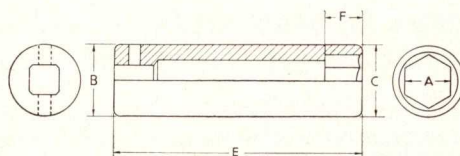
♦ REGISTERED TRADE MARK

WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

"O" SERIES — BOLT CLEARANCE LENGTH

1/4" SQUARE DRIVE

(Male Square .250-.252 Female Square .253-.255)



TYPE B

| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|---------------------------------------|---|---|-----------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | Amer. Std. HEAVY Nut (U.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

BOLT CLEARANCE LENGTH — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|------|--------|-------|-------|-------|--------|---|------|------|------|---|------|
| 1/4 | 10-608 | ..... | ..... | ..... | †4 | B | .257 | .440 | .440 | 2 | .228 |
| 5/16 | 10-610 | 1/8 | 1/8 | ..... | †5 & 6 | B | .321 | .503 | .503 | 2 | .260 |
| 3/8 | 10-612 | ..... | 3/16 | ..... | †10 | B | .384 | .565 | .565 | 2 | .322 |

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.

1-52

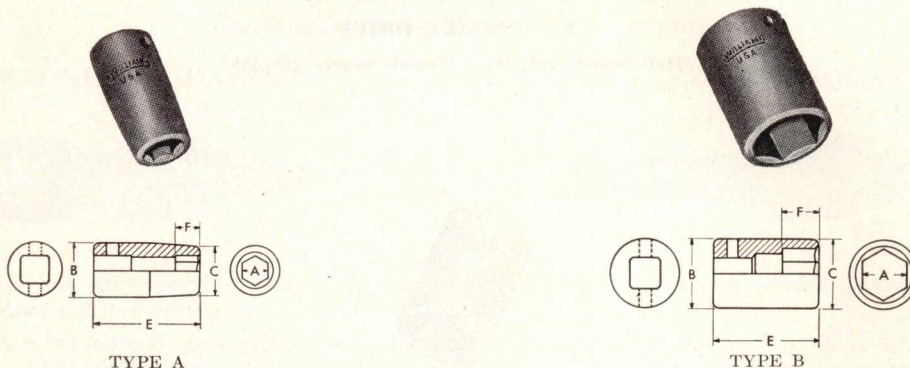
♦ REGISTERED TRADE MARK

WILLIAMS' IMPACT "SUPERSOCKETS"

"O" SERIES — STANDARD LENGTH

1/4" SQUARE DRIVE

(Male Square .250-.252 Female Square .253-.255)



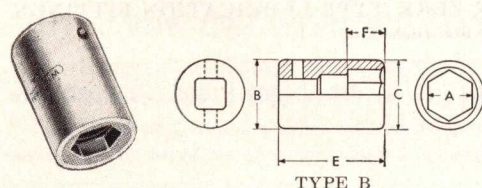
| Nominal Opening | No. | Amer. Std. Hex Head Tapping Screw | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|-----------------------------------|---|---|---|--------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGLR Nut Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH—SINGLE HEXAGON OPENINGS FOR HARDENED AND SELF TAPPING SCREWS
Finish—Copper colored for positive identification

| | | | | | | | | | | | | |
|------|--------|----------|-------|-------|-------|-------|---|------|------|------|-----|------|
| 3/16 | 20-606 | 3, 4, 5 | ..... | ..... | ..... | ..... | A | .191 | .440 | .315 | 7/8 | .075 |
| 1/4 | 20-608 | 6, 7, 8 | ..... | ..... | ..... | ..... | B | .254 | .440 | .440 | 7/8 | .125 |
| 5/16 | 20-610 | 10 & 12 | ..... | ..... | ..... | ..... | B | .316 | .503 | .503 | 7/8 | .135 |
| 3/8 | 20-612 | 14 & 1/4 | ..... | ..... | ..... | ..... | B | .379 | .565 | .565 | 7/8 | .205 |

With Carbide Inserts for Self Tapping Screws

This line of Impact "Supersockets" has been developed for driving case-hardened, self-tapping screws with power tools of all types. They may also be used with hand drivers.



Due to the hard case found on screws of the self-tapping type, even the best alloy steels, properly hardened, do not offer sufficient life. The screw drive opening in these sockets is formed of solid Carbide which is permanently inserted into a hardened steel blank. Actual life due to the Carbide surfaces which drive the screw is at least ten times that of all steel sockets.

Sockets in table below fit Hex, Hex Washer and Oval Hex Washer Heads. Finish is satin nickel. See Page 67 for sizes in "2" Series.

| Nominal Opening | No. | Amer. Std. Hex Head Tapping Screw | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|-----------------------------------|---|---|---|----------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. Machine Screw Hex Nut | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH — SINGLE HEXAGON OPENINGS WITH CARBIDE INSERTS FOR SELF TAPPING SCREWS

Finish—Satin Nickel Plate for positive identification

| | | | | | | | | | | | | |
|------|---------|----------|-------|-------|-------|-------|---|------|------|------|-----|------|
| 1/4 | 20-608C | 6, 7, 8 | ..... | ..... | ..... | ..... | B | .258 | .502 | .502 | 7/8 | .115 |
| 5/16 | 20-610C | 10 & 12 | ..... | ..... | ..... | ..... | B | .321 | .564 | .564 | 7/8 | .125 |
| 3/8 | 20-612C | 14 & 1/4 | ..... | ..... | ..... | ..... | B | .386 | .627 | .627 | 7/8 | .195 |
| 7/16 | 20-614C | ..... | ..... | ..... | ..... | ..... | B | .450 | .751 | .751 | 7/8 | .244 |

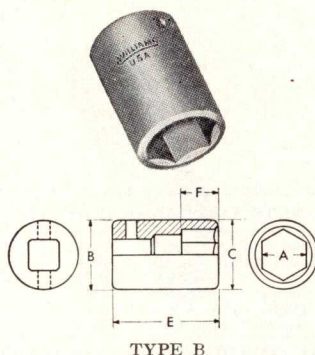
♦ REGISTERED TRADE MARK

WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

"O" SERIES — STANDARD LENGTH

1/4" SQUARE DRIVE

(Male Square .250-.252 Female Square .253-.255)



TYPE B

| Nominal Opening | No. | Fitting Type and Number | Type | MAXIMUM DIMENSIONS | | | | |
|--|--------|---|------|--------------------|----------------------------|--------------------|------------------------|-----------------------|
| | | | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |
| STANDARD LENGTH—SINGLE HEXAGON OPENING FOR ZERK TYPE LUBRICATION FITTINGS Finish—Copper colored for positive identification | | | | | | | | |
| 5/16 | 20-610 | Fits GMC No. 110347 Type C Straight Fitting | B | .316 | .503 | .503 | 7/8 | .135 |

"O" SERIES ACCESSORIES

EXTENSIONS



Male squares fitted with spring plunger.

| No. | Length | Square Male | Square Female |
|-------|--------|-------------|---------------|
| 0-102 | 2 | 1/4 | 1/4 |
| 0-106 | 6 | 1/4 | 1/4 |

HEXAGON—SQUARE SHANKS



Male squares fitted with spring plunger.

| No. | Length | Square Male | Hex Male |
|------|--------|-------------|----------|
| 0-02 | 2 | 1/4 | 1/4 |
| 0-04 | 4 | 1/4 | 1/4 |

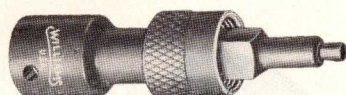
WILLIAMS' IMPACT "SUPERSOCKETS"

"O" SERIES MAGNETIC ACCESSORIES

1/4" SQUARE DRIVE

(Male Square .250-.252 Female Square .253-.255)

MAGNETIC ADAPTER



Patents
Pending

MAGNETIC HEXAGON-SQUARE SHANK



These tools are designed for use *only* with Williams' Impact "Supersockets" for Hardened and Self-Tapping Screws as listed below.

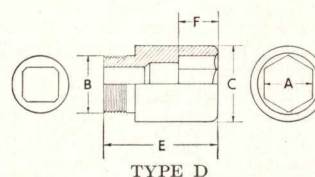
A telescopic magnetic device passes within an assembled socket and contacts either the screw head or nut, retaining same within the socket nut opening. The magnet, imbedded in the drive member, is spring loaded to overcome air gaps and transmits its magnetism through a hardened steel tip to the screw or nut.

Threaded connection is "left hand" and provides a positive fastening of the socket to the shank or adapter.

| No. | Length | Square Male | Square Female |
|------|--------|-------------|---------------|
| BO-0 | 2 | 1/4 | 1/4 |

| No. | Length | Square Male | Hex Male |
|-------|--------|-------------|----------|
| BO-02 | 2-1/2 | 1/4 | 1/4 |

"O" SERIES — STANDARD LENGTH



FOR USE WITH WILLIAMS' MAGNETIC IMPACT ACCESSORIES

Designed for use *only* with Williams' Magnetic Adapter No. BO-0 or Hexagon-Square Shank No. BO-02 to drive Hardened or Self-Tapping Screws widely used in assembly operations.

Drive end employs a male threaded portion for registration with a "left hand" Locking Nut on the drive member. The drive member contains a magnetic device to hold a screw head or nut within the socket nut opening.

| Nominal Opening | No. | Amer. Std. Hex Head Tapping Screw | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|-----------------------------------|---|-------------------------------------|---|--------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGLR Nut Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH—SINGLE HEXAGON OPENINGS FOR HARDENED AND SELF TAPPING SCREWS

Finish—Rust Resistant

| | | | | | | | | | | | | |
|------|---------|----------|-------|-------|-------|-------|---|------|------|------|-----|------|
| 1/4 | B20-608 | 6, 7, 8 | ..... | ..... | ..... | ..... | D | .254 | .437 | .440 | 7/8 | .125 |
| 9/32 | B20-609 | ..... | ..... | ..... | ..... | ..... | D | .285 | .437 | .471 | 7/8 | .125 |
| 5/16 | B20-610 | 10 & 12 | ..... | ..... | ..... | ..... | D | .316 | .437 | .503 | 7/8 | .135 |
| 3/8 | B20-612 | 14 & 1/4 | ..... | ..... | ..... | ..... | D | .379 | .437 | .565 | 7/8 | .205 |

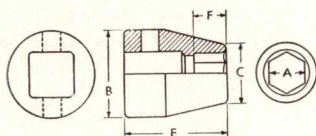
♦ REGISTERED TRADE MARK

WILLIAMS' IMPACT "SUPERSOCKETS"

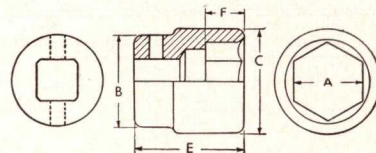
"2" SERIES — STANDARD LENGTH

3/8" SQUARE DRIVE

(Male Square .376-.378 Female Square .379-.381)



TYPE A



TYPE B

| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|---|---|---|-----------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-----------|---|------|------|-------|-------|------|
| 5/16 | 2-610 | 1/8 | 1/8 | ..... | †5 & 6 | A | .321 | .753 | .503 | 7/8 | .291 |
| 11/32 | 2-611 | ..... | ..... | ..... | †8 | A | .353 | .753 | .534 | 7/8 | .291 |
| 3/8 | 2-612 | ..... | 3/16 | ..... | †10 | A | .384 | .753 | .565 | 7/8 | .291 |
| 7/16 | 2-614 | ..... | 1/4 | 1/4 | 1/4 & †12 | A | .447 | .753 | .653 | 7/8 | .291 |
| 1/2 | 2-616 | 1/4 | 5/16 | 5/16 | ..... | B | .510 | .753 | .753 | 15/16 | .322 |
| 9/16 | 2-618 | ..... | 3/8 | 3/8 | 5/16 | A | .573 | .878 | .815 | 1 | .385 |
| 19/32 | 2-619 | 5/16 | ..... | ..... | ..... | A | .605 | .878 | .841 | 1 | .385 |
| 5/8 | 2-620 | ..... | 7/16 | 7/16 | 3/8 | B | .636 | .878 | .893 | 1 | .416 |
| 11/16 | 2-622 | 3/8 | ..... | ..... | ..... | B | .701 | .878 | .971 | 1-1/8 | .447 |
| * 3/4 | 2-624 | ..... | 1/2 | 1/2 | 7/16 | B | .763 | .878 | 1.065 | 1-1/8 | .447 |

STANDARD LENGTH — ALTERNATE DESIGN — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|------|--------|-------|------|-------|-----------|---|------|------|------|-----|------|
| 3/8 | A2-612 | ..... | 3/16 | ..... | †10 | A | .384 | .690 | .555 | 7/8 | .291 |
| 7/16 | A2-614 | ..... | 1/4 | 1/4 | 1/4 & †12 | A | .447 | .690 | .636 | 7/8 | .291 |
| 1/2 | A2-616 | 1/4 | 5/16 | 5/16 | ..... | B | .510 | .716 | .716 | 7/8 | .291 |
| 9/16 | A2-618 | ..... | 3/8 | 3/8 | 5/16 | B | .573 | .794 | .794 | 7/8 | .291 |

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.

* DISCONTINUED: will supply until stock is exhausted.

♦ REGISTERED TRADE MARK

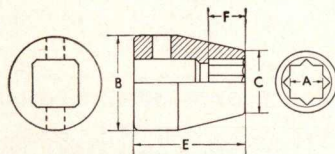
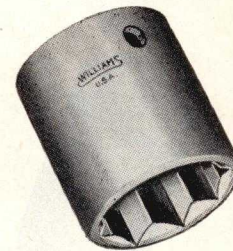
1-52

WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

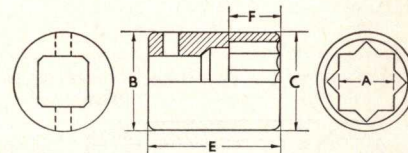
"2" SERIES — STANDARD LENGTH

3/8" SQUARE DRIVE

(Male Square .376-.378 Female Square .379-.381)



TYPE A



TYPE B

| Nominal Opening | No. | FOR SQUARE NUTS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|---|-------------------------------------|---|-----------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH — DOUBLE SQUARE (8 PT.) OPENINGS FOR SQUARE NUTS

Finish — Rust Resistant

| | | | | | | | | | | | |
|------|-------|-------|-------|-------|-----------|---|------|-------|-------|-------|------|
| 5/16 | 2-810 | 1/8 | ..... | ..... | †5 & 6 | A | .321 | .690 | .565 | 7/8 | .291 |
| 3/8 | 2-812 | ..... | ..... | ..... | †10 | A | .384 | .690 | .650 | 7/8 | .291 |
| 7/16 | 2-814 | ..... | ..... | 1/4 | 1/4 & †12 | B | .447 | .753 | .753 | 7/8 | .291 |
| 1/2 | 2-816 | 1/4 | ..... | 5/16 | ..... | B | .510 | .878 | .878 | 7/8 | .322 |
| 9/16 | 2-818 | ..... | ..... | 3/8 | 5/16 | B | .573 | 1.003 | 1.003 | 1 | .385 |
| 5/8 | 2-820 | ..... | ..... | 7/16 | 3/8 | B | .636 | 1.128 | 1.128 | 1-1/8 | .416 |

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.

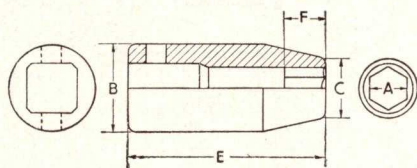
♦ REGISTERED TRADE MARK

WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

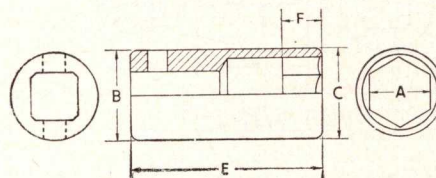
"2" SERIES — BOLT CLEARANCE LENGTH

3/8" SQUARE DRIVE

(Male Square .376-.378 Female Square .379-.381)



TYPE A



TYPE B

| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|---|---|---|-----------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut: Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

BOLT CLEARANCE LENGTH — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|------|--------|-------|------|-------|-----------|---|------|------|------|-------|------|
| 5/16 | 12-610 | 1/8 | 1/8 | ..... | †5 & 6 | A | .321 | .690 | .477 | 1-1/2 | .291 |
| 3/8 | 12-612 | ..... | 3/16 | ..... | †10 | A | .384 | .690 | .555 | 1-1/2 | .291 |
| 7/16 | 12-614 | ..... | 1/4 | 1/4 | 1/4 & †12 | A | .447 | .690 | .636 | 1-1/2 | .291 |
| 1/2 | 12-616 | 1/4 | 5/16 | 5/16 | ..... | B | .510 | .716 | .716 | 1-1/2 | .322 |
| 9/16 | 12-618 | ..... | 3/8 | 3/8 | 5/16 | B | .573 | .794 | .794 | 1-1/2 | .385 |
| 5/8 | 12-620 | ..... | 7/16 | 7/16 | 3/8 | B | .636 | .878 | .878 | 1-1/2 | .416 |

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.

♦ REGISTERED TRADE MARK

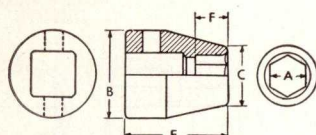
1-52

WILLIAMS' IMPACT "SUPERSOCKETS"

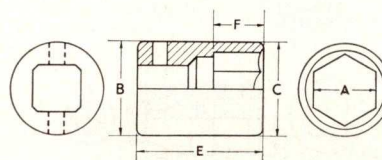
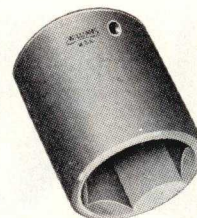
"2" SERIES — STANDARD LENGTH

3/8" SQUARE DRIVE

(Male Square .376-.378 Female Square .379-.381)



TYPE A



TYPE B

| Nominal Opening | No. | Amer. Std. Hex Head Tapping Screw | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|-----------------------------------|---|---|---|--------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Size Bolt | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGLR Nut Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH—SINGLE HEXAGON OPENINGS FOR HARDENED AND SELF TAPPING SCREWS
Finish—Copper colored for positive identification

| | | | | | | | | | | | | |
|------|--------|----------|-------|-------|-------|-------|---|------|------|------|-------|------|
| 5/16 | 22-610 | 10 & 12 | ..... | ..... | ..... | ..... | A | .316 | .753 | .503 | 7/8 | .135 |
| 3/8 | 22-612 | 14 & 1/4 | ..... | ..... | ..... | ..... | A | .379 | .753 | .567 | 7/8 | .205 |
| 7/16 | 22-614 | ..... | ..... | ..... | ..... | ..... | A | .441 | .753 | .659 | 15/16 | .245 |
| 1/2 | 22-616 | 5/16 | ..... | ..... | ..... | ..... | B | .504 | .753 | .753 | 15/16 | .245 |
| 9/16 | 22-618 | 3/8 | ..... | ..... | ..... | ..... | A | .566 | .878 | .815 | 1 | .310 |

STANDARD LENGTH — SINGLE HEXAGON OPENINGS WITH CARBIDE INSERTS FOR SELF TAPPING SCREWS — See Page 61 for description
Finish—Satin Nickel Plate for positive identification

| | | | | | | | | | | | | |
|------|---------|----------|-------|-------|-------|-------|---|------|------|------|-------|------|
| 5/16 | 22-610C | 10 & 12 | ..... | ..... | ..... | ..... | A | .321 | .752 | .562 | 7/8 | .125 |
| 3/8 | 22-612C | 14 & 1/4 | ..... | ..... | ..... | ..... | A | .386 | .752 | .632 | 7/8 | .195 |
| 7/16 | 22-614C | ..... | ..... | ..... | ..... | ..... | A | .450 | .877 | .763 | 15/16 | .244 |
| 1/2 | 22-616C | 5/16 | ..... | ..... | ..... | ..... | A | .513 | .877 | .842 | 15/16 | .239 |

STANDARD LENGTH—SINGLE HEXAGON OPENING FOR ZERK TYPE LUBRICATION FITTINGS
Finish—Copper colored for positive identification

| | | | | | | | | |
|------|--------|---|---|------|------|------|-------|------|
| 5/16 | 22-610 | GMC No. 110347—Type C Straight Fitting | A | .316 | .753 | .503 | 7/8 | .135 |
| 7/16 | 22-614 | (GMC No. 119512—Type C Straight Fitting) | A | .441 | .753 | .659 | 15/16 | .245 |
| | | GMC No. 145433—Type C Special Taper Drive, Straight | | | | | | |

"2" SERIES ACCESSORIES

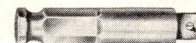
EXTENSIONS



Male squares fitted with spring plunger.

| No. | Length | Square Male | Square Female |
|-------|--------|-------------|---------------|
| 2-103 | 3 | 3/8 | 3/8 |
| 2-106 | 6 | 3/8 | 3/8 |

HEXAGON—SQUARE SHANKS



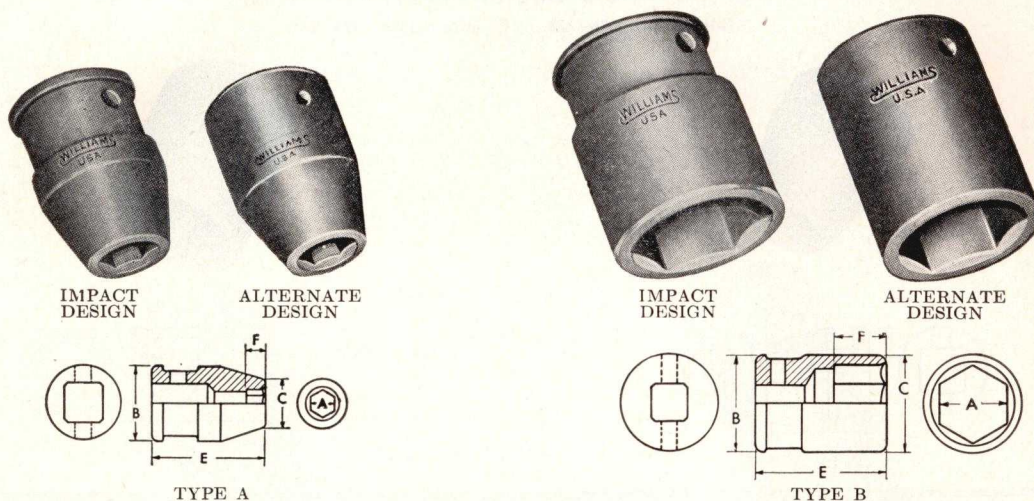
Male squares fitted with spring plunger.

| No. | Length | Square Male | Hex Male |
|------|--------|-------------|----------|
| 2-33 | 2-3/4 | 3/8 | 7/16 |
| 2-35 | 5 | 3/8 | 7/16 |

WILLIAMS' IMPACT "SUPERSOCKETS"

"4" SERIES — STANDARD LENGTH

1/2" SQUARE DRIVE
(Male Square .501-.503 Female Square .504-.506)



See Page 82 for Handy Sets

| Nominal Opening | No. | Amer. Std. Hex Head Tapping Screw | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|-----------------------------------|---|---|---|--------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGLR Nut Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH — IMPACT DESIGN — SINGLE HEXAGON OPENINGS Finish — Rust Resistant

| | | | | | | | | | | | | |
|---------|-------|--|------|------|------|-----------|---|-------|-------|-------|-------|------|
| 3/8 | 4-612 | | | 3/16 | | †10 | A | .384 | 1.003 | .628 | 1-1/2 | .291 |
| 7/16 | 4-614 | | | 1/4 | 1/4 | 1/4 & †12 | A | .447 | 1.003 | .706 | 1-1/2 | .338 |
| 1/2 | 4-616 | | 1/4 | 5/16 | 5/16 | | A | .510 | 1.065 | .784 | 1-1/2 | .385 |
| 9/16 | 4-618 | | | 3/8 | 3/8 | 5/16 | A | .573 | 1.065 | .879 | 1-1/2 | .447 |
| 19/32 | 4-619 | | 5/16 | | | | A | .605 | 1.065 | .909 | 1-1/2 | .447 |
| 5/8 | 4-620 | | | 7/16 | 7/16 | 3/8 | A | .636 | 1.128 | .956 | 1-1/2 | .478 |
| 11/16 | 4-622 | | 3/8 | | | | A | .701 | 1.128 | 1.034 | 1-1/2 | .525 |
| 3/4 | 4-624 | | | 1/2 | 1/2 | 7/16 | B | .763 | 1.128 | 1.128 | 1-1/2 | .572 |
| * 25/32 | 4-625 | | 7/16 | | | | B | .794 | 1.128 | 1.143 | 1-1/2 | .603 |
| 13/16 | 4-626 | | | 9/16 | | 1/2 | B | .826 | 1.128 | 1.190 | 1-1/2 | .619 |
| 7/8 | 4-628 | | 1/2 | 5/8 | 9/16 | 9/16 | B | .888 | 1.128 | 1.315 | 1-5/8 | .666 |
| 15/16 | 4-630 | | | | 5/8 | | B | .952 | 1.315 | 1.378 | 1-3/4 | .713 |
| 1 | 4-632 | | | 3/4 | | 5/8 | B | 1.015 | 1.315 | 1.440 | 1-3/4 | .760 |
| 1 1/16 | 4-634 | | 5/8 | | 3/4 | | B | 1.080 | 1.315 | 1.518 | 2 | .806 |
| *1 1/8 | 4-636 | | | 7/8 | | | B | 1.142 | 1.315 | 1.612 | 2 | .853 |
| 1 3/16 | 4-638 | | | | | | B | 1.205 | 1.315 | 1.690 | 2 | .885 |
| *1 1/4 | 4-640 | | 3/4 | | 7/8 | | B | 1.267 | 1.315 | 1.768 | 2 | .947 |

† STANDARD LENGTH — ALTERNATE DESIGN — SINGLE HEXAGON OPENINGS Finish — Rust Resistant

| | | | | | | | | | | | | |
|--------|--------|--|------|------|------|-----------|---|-------|-------|-------|-------|------|
| 3/8 | A4-612 | | | 3/16 | | †10 | A | .384 | .878 | .608 | 1-1/2 | .291 |
| 7/16 | A4-614 | | | 1/4 | 1/4 | 1/4 & †12 | A | .447 | .878 | .691 | 1-1/2 | .338 |
| 1/2 | A4-616 | | 1/4 | 5/16 | 5/16 | | A | .510 | .940 | .776 | 1-1/2 | .385 |
| 9/16 | A4-618 | | | 3/8 | 3/8 | 5/16 | A | .573 | .940 | .857 | 1-1/2 | .447 |
| 19/32 | A4-619 | | 5/16 | | | | B | .605 | .899 | .899 | 1-1/2 | .447 |
| 5/8 | A4-620 | | | 7/16 | 7/16 | 3/8 | B | .636 | .944 | .944 | 1-1/2 | .478 |
| 11/16 | A4-622 | | 3/8 | | | | B | .701 | 1.025 | 1.025 | 1-1/2 | .525 |
| 3/4 | A4-624 | | | 1/2 | 1/2 | 7/16 | B | .763 | 1.108 | 1.108 | 1-1/2 | .572 |
| 13/16 | A4-626 | | | 9/16 | | 1/2 | B | .826 | 1.190 | 1.190 | 1-1/2 | .619 |
| 7/8 | A4-628 | | 1/2 | 5/8 | 9/16 | 9/16 | B | .888 | 1.271 | 1.271 | 1-1/2 | .666 |
| 15/16 | A4-630 | | | | 5/8 | | B | .952 | 1.357 | 1.357 | 1-3/4 | .713 |
| 1 | A4-632 | | | 3/4 | | 5/8 | B | 1.015 | 1.440 | 1.440 | 1-3/4 | .760 |
| 1 1/16 | A4-634 | | 5/8 | | 3/4 | | B | 1.080 | 1.525 | 1.525 | 2 | .806 |

† These Sockets have straight walls with no band groove recess.
* DISCONTINUED: will supply until stock is exhausted.

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.

For Retainer Pins and Neoprene Bands to fit Nos. 4-612 thru 4-640 see Page 83.

♦ REGISTERED TRADE MARK

WILLIAMS' IMPACT "SUPERSOCKETS"

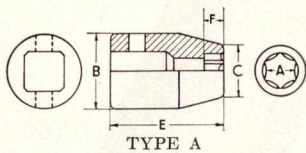
"4" SERIES — STANDARD LENGTH

1/2" SQUARE DRIVE

(Male Square .501-.503 Female Square .504-.506)



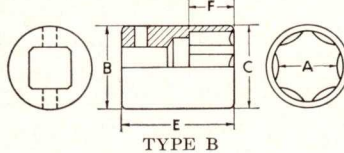
SURFACE DRIVE



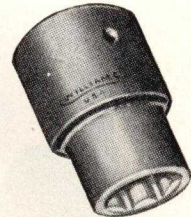
TYPE A



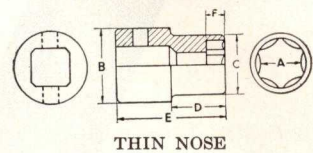
SURFACE DRIVE



TYPE B



SURFACE DRIVE



THIN NOSE

| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | | Type | MAXIMUM DIMENSIONS | | | | | |
|-----------------|-----|---|---|---|-----------------------------------|--|------|--------------------|-------------------|--------------|---------------|------------------|-----------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | | Opening A | Diam. Drive End B | Diam. Nose C | Nose Length D | Length Overall E | Depth Opening F |

STANDARD LENGTH — SURFACE DRIVE — SINGLE HEXAGON OPENINGS

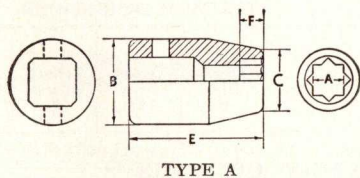
Finish — Rust Resistant

| | | | | | | | | | | | | |
|-------|---------|-------|-------|-------|-----------|---|------|-------|-------|-------|-------|------|
| 7/16 | A4-614A | ..... | 1/4 | 1/4 | 1/4 & †12 | A | .447 | .878 | .691 | ..... | 1-1/2 | .338 |
| 1/2 | A4-616A | 1/4 | 5/16 | 5/16 | 5/16 | A | .510 | .940 | .776 | ..... | 1-1/2 | .385 |
| 9/16 | A4-618A | ..... | 3/8 | 3/8 | 5/16 | A | .573 | .940 | .857 | ..... | 1-1/2 | .447 |
| 5/8 | A4-620A | ..... | 7/16 | 7/16 | 3/8 | B | .636 | .944 | .944 | ..... | 1-1/2 | .478 |
| 11/16 | A4-622A | 3/8 | ..... | ..... | ..... | B | .701 | 1.025 | 1.025 | ..... | 1-1/2 | .525 |
| 3/4 | A4-624A | ..... | 1/2 | 1/2 | 7/16 | B | .763 | 1.108 | 1.108 | ..... | 1-1/2 | .572 |
| 13/16 | A4-626A | ..... | 9/16 | ..... | 1/2 | B | .826 | 1.190 | 1.190 | ..... | 1-1/2 | .619 |
| 7/8 | A4-628A | 1/2 | 5/8 | 9/16 | 9/16 | B | .888 | 1.271 | 1.271 | ..... | 1-1/2 | .666 |

STANDARD LENGTH — THIN NOSE SURFACE DRIVE — SINGLE HEXAGON OPENINGS

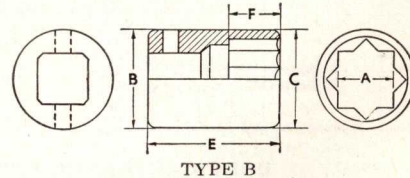
Finish — Rust Resistant

| | | | | | | | | | | | | |
|------|---------|-------|------|------|-----------|-------|------|------|------|-------|-------|------|
| 7/16 | 34-614A | ..... | 1/4 | 1/4 | 1/4 & †12 | ..... | .513 | .878 | .671 | 13/16 | 1-1/2 | .338 |
| 1/2 | 34-616A | 1/4 | 5/16 | 5/16 | 5/16 | ..... | .586 | .940 | .753 | 49/64 | 1-1/2 | .385 |
| 9/16 | 34-618A | ..... | 3/8 | 3/8 | 5/16 | ..... | .659 | .940 | .831 | 47/64 | 1-1/2 | .447 |



TYPE A

Double Square (8 Pt.) Openings



TYPE B

| Nominal Opening | No. | Amer. Std. Hex Head Tapping Screw | FOR SQUARE NUTS | | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|-----------------------------------|---|---|---|--------------------------------|--|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGLR Nut Size Bolt | | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH — DOUBLE SQUARE (8 PT.) OPENINGS FOR SQUARE NUTS

Finish — Rust Resistant

| | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-----------|---|-------|-------|-------|-------|------|
| 3/8 | 4-812 | ..... | ..... | ..... | ..... | †10 | A | .384 | .878 | .715 | 1-1/2 | .291 |
| 7/16 | 4-814 | ..... | ..... | ..... | 1/4 | 1/4 & †12 | A | .447 | .940 | .817 | 1-1/2 | .338 |
| 1/2 | 4-816 | 1/4 | ..... | ..... | 5/16 | ..... | A | .510 | 1.003 | .916 | 1-1/2 | .385 |
| 9/16 | 4-818 | ..... | ..... | ..... | 3/8 | 5/16 | A | .573 | 1.128 | 1.014 | 1-1/2 | .447 |
| 5/8 | 4-820 | ..... | ..... | ..... | 7/16 | 3/8 | A | .636 | 1.128 | 1.108 | 1-1/2 | .478 |
| 3/4 | 4-824 | ..... | ..... | ..... | 1/2 | 7/16 | B | .763 | 1.315 | 1.315 | 1-1/2 | .572 |
| 13/16 | 4-826 | ..... | ..... | ..... | ..... | 1/2 | B | .826 | 1.407 | 1.407 | 1-1/2 | .619 |
| 7/8 | 4-828 | 1/2 | ..... | ..... | 9/16 | 9/16 | B | .888 | 1.516 | 1.516 | 1-1/2 | .666 |
| 15/16 | 4-830 | ..... | ..... | ..... | 5/8 | ..... | B | .952 | 1.612 | 1.612 | 1-3/4 | .713 |
| 1 | 4-832 | ..... | ..... | ..... | ..... | 5/8 | B | 1.015 | 1.719 | 1.719 | 1-3/4 | .760 |

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.

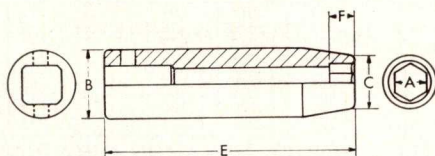
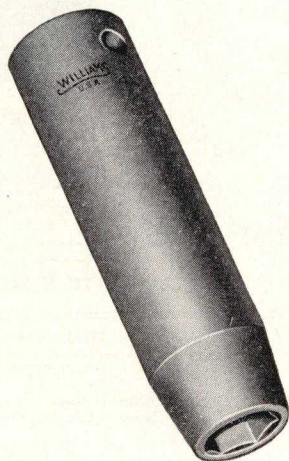
♦ REGISTERED TRADE MARK

WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

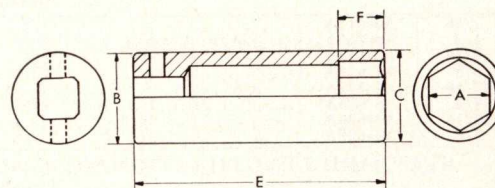
"4" SERIES — BOLT CLEARANCE LENGTH

1/2" SQUARE DRIVE

(Male Square .501-.503 Female Square .504-.506)



TYPE A



TYPE B

| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|---|---|---|-----------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

BOLT CLEARANCE LENGTH — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|-------|--------|-------|-------|-------|-----------|---|-------|-------|-------|-------|------|
| 3/8 | 14-612 | ..... | 3/16 | ..... | †10 | A | .384 | .878 | .608 | 3-1/4 | .291 |
| 7/16 | 14-614 | ..... | 1/4 | ..... | 1/4 & †12 | A | .447 | .878 | .691 | 3-1/4 | .338 |
| 1/2 | 14-616 | 1/4 | 5/16 | 5/16 | ..... | A | .510 | .940 | .776 | 3-1/4 | .385 |
| 9/16 | 14-618 | ..... | 3/8 | 3/8 | 5/16 | A | .573 | .940 | .857 | 3-1/4 | .447 |
| 5/8 | 14-620 | ..... | 7/16 | 7/16 | 3/8 | B | .636 | .940 | .940 | 3-1/4 | .478 |
| 11/16 | 14-622 | 3/8 | ..... | ..... | ..... | B | .701 | 1.025 | 1.025 | 3-1/4 | .525 |
| 3/4 | 14-624 | ..... | 1/2 | 1/2 | 7/16 | B | .763 | 1.108 | 1.108 | 3-1/4 | .572 |
| 13/16 | 14-626 | ..... | 9/16 | ..... | 1/2 | B | .826 | 1.190 | 1.190 | 3-1/4 | .619 |
| 7/8 | 14-628 | 1/2 | 5/8 | 9/16 | 9/16 | B | .888 | 1.276 | 1.276 | 3-1/2 | .666 |
| 15/16 | 14-630 | ..... | ..... | 5/8 | ..... | B | .952 | 1.357 | 1.357 | 3-1/2 | .713 |
| 1 | 14-632 | ..... | 3/4 | ..... | 5/8 | B | 1.015 | 1.440 | 1.440 | 3-1/2 | .760 |

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.

♦ REGISTERED TRADE MARK

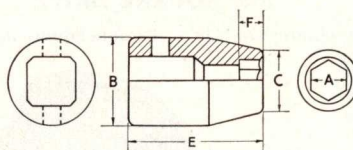
1-52

WILLIAMS' IMPACT "SUPERSOCKETS"

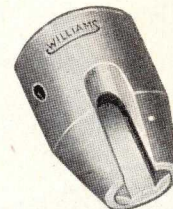
"4" SERIES — STANDARD LENGTH

1/2" SQUARE DRIVE

(Male Square .501-.503 Female Square .504-.506)



TYPE A



| Nominal Opening | No. | Amer. Std. Hex Head Tapping Screw | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|-----------------------------------|---|---|---|--------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGLR Nut Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH—SINGLE HEXAGON OPENINGS FOR HARDENED AND SELF TAPPING SCREWS

Finish—Copper colored for positive identification

| | | | | | | | | | | | | |
|------|--------|----------|-------|-------|-------|-------|---|------|-------|------|-------|------|
| 3/8 | 24-612 | 14 & 1/4 | ..... | ..... | ..... | ..... | A | .379 | .878 | .628 | 1-1/2 | .205 |
| 7/16 | 24-614 | ..... | ..... | ..... | ..... | ..... | A | .441 | .878 | .691 | 1-1/2 | .250 |
| 1/2 | 24-616 | 5/16 | ..... | ..... | ..... | ..... | A | .504 | .940 | .753 | 1-1/2 | .245 |
| 9/16 | 24-618 | 3/8 | ..... | ..... | ..... | ..... | A | .566 | 1.003 | .878 | 1-1/2 | .310 |

STANDARD LENGTH—SINGLE HEXAGON OPENINGS FOR ZERK TYPE LUBRICATION FITTINGS

Finish—Copper colored for positive identification

| | | | | | | | | | | | | |
|------|---------|---|--|--|--|--|---|------|------|------|-------|------|
| 3/8 | 24-612B | {Fits GMC No. 110309—Type C Elbow 45° Fitting..... Fits GMC No. 191350—Type C Elbow 85-90° Fitting.....} | | | | | A | .379 | .878 | .628 | 1-1/2 | .416 |
| 7/16 | 24-614B | {Fits GMC No. 109350—Type C Elbow 67-1/2° Fitting..... Fits GMC No. 109353—Type C Elbow 30° Fitting..... Fits GMC No. 109354—Type C Elbow 85-90° Fitting..... Fits GMC No. 145435—Type C Special Taper Dr. 67-1/2° Fits GMC No. 145436—Type C Special Taper Dr. 85-90°} | | | | | A | .441 | .878 | .691 | 1-1/2 | .478 |
| 7/16 | 24-614 | {Fits GMC No. 119512—Type C Straight Fitting..... Fits GMC No. 145433—Type C Special Taper Dr. Straight} | | | | | A | .441 | .878 | .691 | 1-1/2 | .250 |

"4" SERIES — ACCESSORIES



EXTENSIONS



Male squares have through pin hole.

| No. | Length | Square Male | Square Female |
|-------|--------|-------------|---------------|
| 4-105 | 5 | 1/2 | 1/2 |
| 4-110 | 10 | 1/2 | 1/2 |

Male squares have imprisoned spring and plunger.

| No. | Length | Square Male | Square Female |
|--------|--------|-------------|---------------|
| 4-105A | 5 | 1/2 | 1/2 |
| 4-110A | 10 | 1/2 | 1/2 |



HEXAGON—SQUARE SHANKS



Male squares have through pin hole.

| No. | Length | Square Male | Hex Male |
|------|--------|-------------|----------|
| 4-33 | 2-3/4 | 1/2 | 7/16 |
| 4-35 | 5 | 1/2 | 7/16 |
| 4-53 | 3 | 1/2 | 5/8 |
| 4-55 | 5 | 1/2 | 5/8 |

Male squares have imprisoned spring and plunger.

| No. | Length | Square Male | Hex Male |
|-------|--------|-------------|----------|
| 4-33A | 2-3/4 | 1/2 | 7/16 |
| 4-35A | 5 | 1/2 | 7/16 |
| 4-53A | 3 | 1/2 | 5/8 |
| 4-55A | 5 | 1/2 | 5/8 |

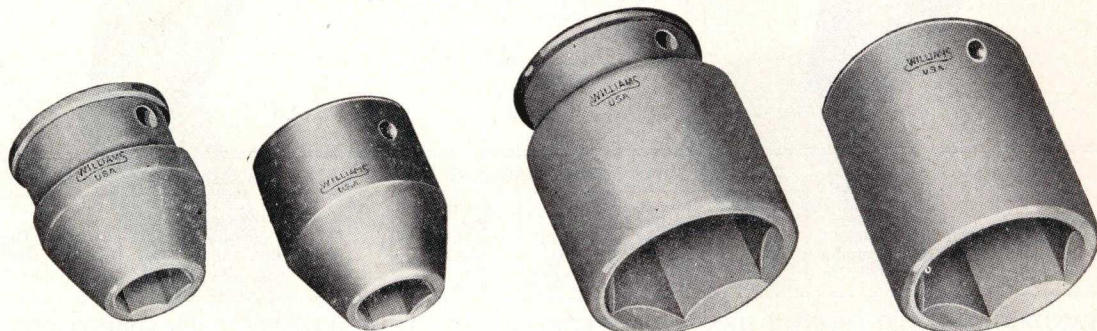
For Retainer Pins and Neoprene Bands to fit above Extensions see Page 83.

WILLIAMS' IMPACT "SUPERSOCKETS"

"5" SERIES — STANDARD LENGTH

5/8" SQUARE DRIVE

(Male Square .626-.628 Female Square .628-.631)

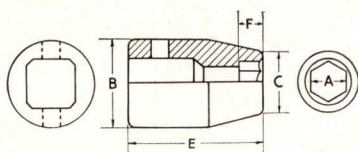


IMPACT
DESIGN

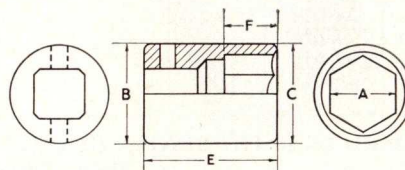
ALTERNATE
DESIGN

IMPACT
DESIGN

ALTERNATE
DESIGN



TYPE A



TYPE B

| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|--------------------|-----|--|--|--|---|------|--------------------|----------------------------|--------------------|------------------------|-----------------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH — IMPACT DESIGN — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|---------|-------|------|-------|------|------|---|-------|-------|-------|-------|-------|
| * 1/2 | 5-616 | 1/4 | 5/16 | 5/16 | 5/16 | A | 510 | 1.315 | .880 | 1-1/2 | .447 |
| * 9/16 | 5-618 | | 3/8 | 3/8 | 3/8 | A | 573 | 1.315 | .940 | 1-1/2 | .447 |
| * 5/8 | 5-620 | | 7/16 | 7/16 | 7/16 | A | 636 | 1.315 | 1.019 | 1-1/2 | .478 |
| * 11/16 | 5-622 | 3/8 | | | 3/8 | A | 701 | 1.315 | 1.101 | 1-1/2 | .510 |
| * 3/4 | 5-624 | | 1/2 | 1/2 | 7/16 | A | 763 | 1.315 | 1.183 | 1-1/2 | .572 |
| * 25/32 | 5-625 | 7/16 | | | | A | 794 | 1.315 | 1.237 | 1-1/2 | .603 |
| * 13/16 | 5-626 | | 9/16 | | 1/2 | A | 826 | 1.315 | 1.265 | 1-1/2 | .635 |
| * 7/8 | 5-628 | 1/2 | 5/8 | 9/16 | 9/16 | B | 888 | 1.315 | 1.378 | 1-5/8 | .666 |
| * 15/16 | 5-630 | | | 5/8 | | B | 952 | 1.315 | 1.440 | 1-3/4 | .697 |
| *† 1/16 | 5-632 | | 3/4 | | 5/8 | B | 1 015 | 1.503 | 1.503 | 1-3/4 | .760 |
| *† 1/8 | 5-634 | 5/8 | | 3/4 | | B | 1 080 | 1.503 | 1.628 | 2 | .822 |
| *† 1/4 | 5-636 | | 7/8 | | 3/4 | B | 1 142 | 1.503 | 1.690 | 2 | .822 |
| *† 1/2 | 5-640 | 3/4 | | 7/8 | | B | 1 267 | 1.503 | 1.815 | 2 | .885 |
| *† 5/16 | 5-642 | | 1 | | 7/8 | B | 1 331 | 1.503 | 1.940 | 2-1/8 | 1.072 |
| *† 3/8 | 5-644 | | | | | B | 1 395 | 1.503 | 2.003 | 2-1/8 | 1.072 |
| *† 7/16 | 5-646 | 7/8 | | 1 | | B | 1 458 | 1.503 | 2.065 | 2-1/4 | 1.181 |
| *† 1/2 | 5-648 | | 1-1/8 | | 1 | B | 1 521 | 1.503 | 2.159 | 2-3/8 | 1.306 |

† STANDARD LENGTH — ALTERNATE DESIGN — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|--------|--------|------|------|------|------|---|-------|-------|-------|-------|------|
| 9/16 | A5-618 | | 3/8 | 3/8 | 5/16 | A | 573 | 1.128 | .851 | 1-1/2 | .447 |
| 19/32 | A5-619 | 5/16 | | | | A | 605 | 1.128 | .899 | 1-1/2 | .447 |
| 5/8 | A5-620 | | 7/16 | 7/16 | 3/8 | A | 636 | 1.128 | .940 | 1-1/2 | .478 |
| 11/16 | A5-622 | 3/8 | | | | A | 701 | 1.128 | 1.018 | 1-1/2 | .510 |
| 3/4 | A5-624 | | 1/2 | 1/2 | 7/16 | A | 763 | 1.128 | 1.018 | 1-1/2 | .572 |
| 13/16 | A5-626 | | 9/16 | | 1/2 | B | 826 | 1.190 | 1.190 | 1-1/2 | .635 |
| 7/8 | A5-628 | 1/2 | 5/8 | 9/16 | 9/16 | B | 888 | 1.271 | 1.271 | 1-1/2 | .666 |
| 15/16 | A5-630 | | | 5/8 | | B | 952 | 1.357 | 1.357 | 1-3/4 | .697 |
| 1 | A5-632 | | 3/4 | | | B | 1 015 | 1.440 | 1.440 | 1-3/4 | .760 |
| 1 1/16 | A5-634 | 5/8 | | 3/4 | | B | 1 080 | 1.525 | 1.525 | 2 | .822 |
| 1 1/8 | A5-636 | | 7/8 | | | B | 1 142 | 1.608 | 1.608 | 2 | .822 |
| 1 1/4 | A5-640 | 3/4 | | 7/8 | | B | 1 267 | 1.777 | 1.777 | 2 | .855 |

† These Sockets have straight walls with no band groove recess.

* DISCONTINUED: will supply until stock is exhausted.

For Retainer Pins and Neoprene Bands to fit Nos. 5-616 thru 5-648 see Page 83.

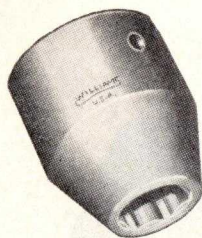
† REGISTERED TRADE MARK

WILLIAMS' IMPACT "SUPERSOCKETS"

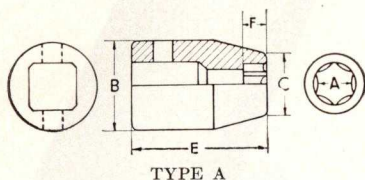
"5" SERIES — STANDARD LENGTH

5/8" SQUARE DRIVE

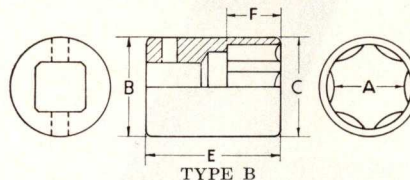
(Male Square .626-.628 Female Square .628-.631)



Surface
Drive

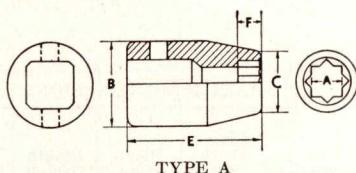


TYPE A



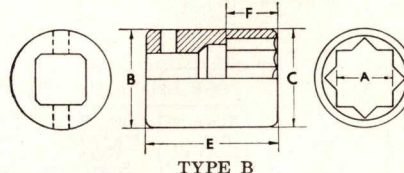
TYPE B

| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|---|---------|--|--|--|--|------|--------------------|----------------------------|--------------------|------------------------|-----------------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |
| STANDARD LENGTH — SURFACE DRIVE — SINGLE HEXAGON OPENINGS | | | | | | | | | | | |
| Finish — Rust Resistant | | | | | | | | | | | |
| 5/8 | A5-620A | | 7/16 | 7/16 | 3/8 | A | .636 | 1.128 | .940 | 1-1/2 | .478 |
| 11/16 | A5-622A | 3/8 | | | | A | .701 | 1.128 | 1.018 | 1-1/2 | .510 |
| 3/4 | A5-624A | | 1/2 | 1/2 | 7/16 | A | .763 | 1.128 | 1.108 | 1-1/2 | .572 |
| 13/16 | A5-626A | | 9/16 | | 1/2 | B | .826 | 1.190 | 1.190 | 1-1/2 | .635 |
| 7/8 | A5-628A | 1/2 | 5/8 | 9/16 | 9/16 | B | .888 | 1.271 | 1.271 | 1-1/2 | .666 |
| 15/16 | A5-630A | | | 5/8 | | B | .952 | 1.357 | 1.357 | 2 | .697 |
| 1 | A5-632A | | 3/4 | | | B | 1.015 | 1.440 | 1.440 | 2 | .760 |
| 1 1/16 | A5-634A | 5/8 | | 3/4 | | B | 1.080 | 1.525 | 1.525 | 2 | .822 |



TYPE A

**Double
Square (8 Pt.)
Openings**



TYPE B

| Nominal Opening | No | FOR SQUARE NUTS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|--|-------|--|--|--|--|------|--------------------|----------------------------|--------------------|------------------------|-----------------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |
| STANDARD LENGTH — DOUBLE SQUARE (8 PT.) OPENINGS FOR SQUARE NUTS | | | | | | | | | | | |
| Finish — Rust Resistant | | | | | | | | | | | |
| 9/16 | 5-818 | ..... | ..... | 3/8 | 5/16 | A | .573 | 1.128 | 1.014 | 1-1/2 | .447 |
| 5/8 | 5-820 | ..... | ..... | 7/16 | 3/8 | B | .636 | 1.128 | 1.128 | 1-1/2 | .478 |
| 11/16 | 5-822 | 3/8 | ..... | ..... | ..... | B | .699 | 1.253 | 1.253 | 1-1/2 | .525 |
| 3/4 | 5-824 | ..... | ..... | 1/2 | 7/16 | B | .763 | 1.315 | 1.315 | 1-1/2 | .572 |
| 13/16 | 5-826 | ..... | ..... | ..... | 1/2 | B | .826 | 1.407 | 1.407 | 1-1/2 | .635 |
| 7/8 | 5-828 | 1/2 | ..... | 9/16 | 9/16 | B | .888 | 1.516 | 1.516 | 1-1/2 | .666 |
| 15/16 | 5-830 | ..... | ..... | 5/8 | ..... | B | .952 | 1.614 | 1.614 | 1-3/4 | .697 |
| 1 | 5-832 | ..... | ..... | ..... | 5/8 | B | 1.015 | 1.719 | 1.719 | 1-3/4 | .760 |
| 1 1/16 | 5-834 | 5/8 | ..... | 3/4 | ..... | B | 1.080 | 1.836 | 1.836 | 2 | .822 |
| 1 1/8 | 5-836 | ..... | ..... | ..... | 3/4 | B | 1.142 | 1.933 | 1.933 | 2 | .822 |

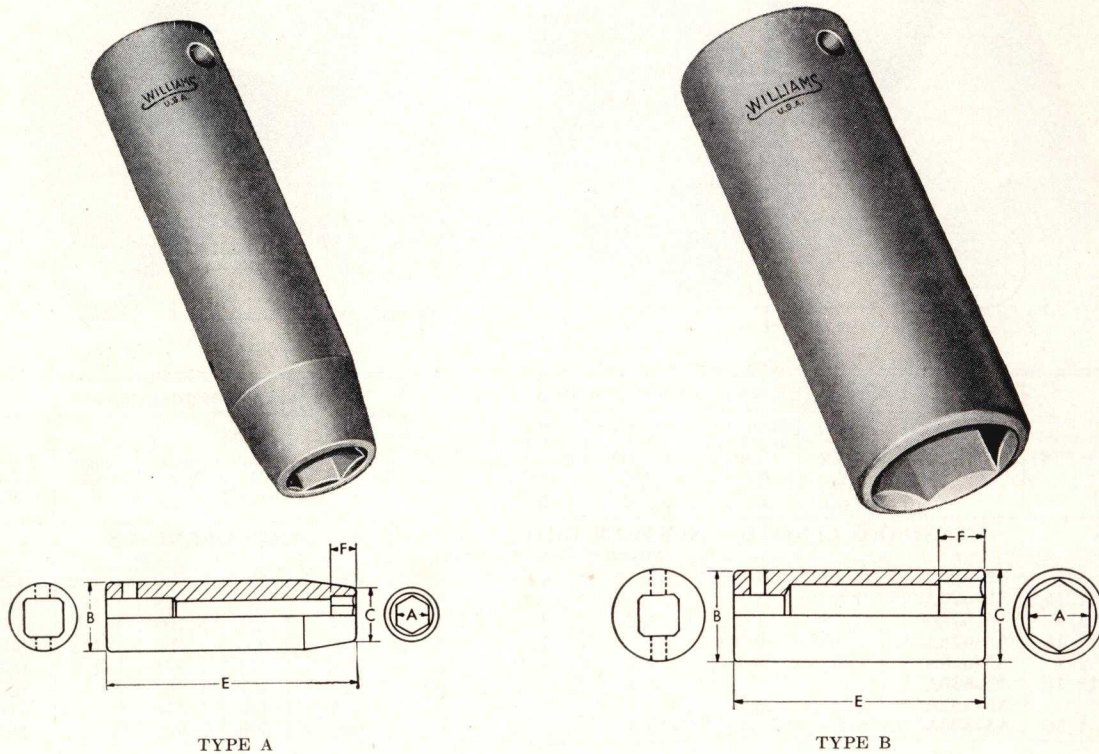
♦ REGISTERED TRADE MARK

WILLIAMS' IMPACT "SUPERSOCKETS"

"5" SERIES — BOLT CLEARANCE LENGTH

5/8" SQUARE DRIVE

(Male Square .626-.628 Female Square .628-.631)



TYPE A

TYPE B

| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|---|---|---|-----------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

BOLT CLEARANCE LENGTH — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|--------|--------|-------|-------|-------|-------|---|-------|-------|-------|-------|------|
| 9/16 | 15-618 | ..... | 3/8 | 3/8 | 5/16 | A | .573 | 1.128 | .851 | 3-1/4 | .447 |
| 5/8 | 15-620 | ..... | 7/16 | 7/16 | 3/8 | A | .636 | 1.128 | .940 | 3-1/4 | .478 |
| 11/16 | 15-622 | 3/8 | ..... | ..... | ..... | A | .701 | 1.128 | 1.018 | 3-1/4 | .510 |
| 3/4 | 15-624 | ..... | 1/2 | 1/2 | 7/16 | A | .763 | 1.128 | 1.108 | 3-1/4 | .572 |
| 13/16 | 15-626 | ..... | 9/16 | ..... | 1/2 | B | .826 | 1.190 | 1.190 | 3-1/4 | .635 |
| 7/8 | 15-628 | 1/2 | 5/8 | 9/16 | 9/16 | B | .888 | 1.276 | 1.276 | 3-1/2 | .666 |
| 15/16 | 15-630 | ..... | ..... | 5/8 | ..... | B | .952 | 1.357 | 1.357 | 3-1/2 | .697 |
| 1 | 15-632 | ..... | 3/4 | ..... | 5/8 | B | 1.015 | 1.440 | 1.440 | 3-1/2 | .760 |
| 1 1/16 | 15-634 | 5/8 | ..... | 3/4 | ..... | B | 1.080 | 1.525 | 1.525 | 3-1/2 | .822 |

WILLIAMS' IMPACT "SUPERSOCKETS"

"5" SERIES

5/8" SQUARE DRIVE

(Male Square .626-.628 Female Square .628-.631)

ACCESSORIES

EXTENSIONS



Male squares have through pin hole.

| No. | Length | Square Male | Square Female |
|--------------|--------|-------------|---------------|
| 5-106 | 6 | 5/8 | 5/8 |
| 5-110 | 10 | 5/8 | 5/8 |



Male squares have imprisoned spring and plunger.

| No. | Length | Square Male | Square Female |
|---------------|--------|-------------|---------------|
| 5-106A | 6 | 5/8 | 5/8 |
| 5-110A | 10 | 5/8 | 5/8 |

HEXAGON—SQUARE SHANKS



Male squares have through pin hole.

| No. | Length | Square Male | Hex Male |
|-------------|--------|-------------|----------|
| 5-53 | 3 | 5/8 | 5/8 |
| 5-55 | 5 | 5/8 | 5/8 |
| 5-63 | 3 | 5/8 | 3/4 |



Male squares have imprisoned spring and plunger.

| No. | Length | Square Male | Hex Male |
|--------------|--------|-------------|----------|
| 5-53A | 3 | 5/8 | 5/8 |
| 5-55A | 5 | 5/8 | 5/8 |
| 5-63A | 3 | 5/8 | 3/4 |

For Retainer Pins and Neoprene Bands to fit above Extensions see Page 83.

◆ REGISTERED TRADE MARK

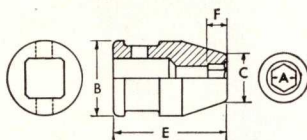
WILLIAMS' IMPACT "SUPERSOCKETS"

"6" SERIES — STANDARD LENGTH

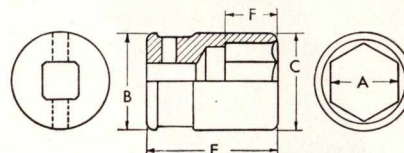
3/4" SQUARE DRIVE

(Male Square .757-.759 Female Square .759-.764)

All Sockets furnished without
removable snap-ring in drive end.



TYPE A



TYPE B

| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|---|---|---|-----------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|---|-------|-------|-------|-------|-------|
| 1/2 | 6-616 | 1/4 | 5/16 | 5/16 | ..... | A | .510 | 1.503 | .940 | 1-3/4 | .572 |
| 9/16 | 6-618 | ..... | 3/8 | 3/8 | 5/16 | A | .573 | 1.503 | 1.003 | 1-3/4 | .572 |
| 19/32 | 6-619 | 5/16 | ..... | ..... | ..... | A | .605 | 1.503 | 1.065 | 1-3/4 | .572 |
| 5/8 | 6-620 | ..... | 7/16 | 7/16 | 3/8 | A | .636 | 1.503 | 1.096 | 1-3/4 | .572 |
| 11/16 | 6-622 | 3/8 | ..... | ..... | ..... | A | .701 | 1.503 | 1.159 | 1-3/4 | .572 |
| 3/4 | 6-624 | ..... | 1/2 | 1/2 | 7/16 | A | .763 | 1.503 | 1.253 | 1-3/4 | .572 |
| 25/32 | 6-625 | 7/16 | ..... | ..... | ..... | A | .794 | 1.503 | 1.284 | 1-3/4 | .572 |
| 13/16 | 6-626 | ..... | 9/16 | ..... | 1/2 | A | .826 | 1.503 | 1.378 | 1-7/8 | .635 |
| 7/8 | 6-628 | 1/2 | 5/8 | 9/16 | 9/16 | B | .888 | 1.503 | 1.503 | 1-7/8 | .635 |
| 15/16 | 6-630 | ..... | ..... | 5/8 | ..... | B | .952 | 1.503 | 1.565 | 1-7/8 | .635 |
| 1 | 6-632 | ..... | 3/4 | ..... | 5/8 | B | 1.015 | 1.503 | 1.628 | 2 | .760 |
| 1 | 6-634 | 5/8 | ..... | 3/4 | ..... | B | 1.080 | 1.503 | 1.690 | 2 | .760 |
| 1 | 6-636 | ..... | 7/8 | ..... | 3/4 | B | 1.142 | 1.503 | 1.753 | 2-1/8 | .885 |
| 1 | 6-638 | ..... | ..... | ..... | ..... | B | 1.205 | 1.503 | 1.878 | 2-1/8 | .885 |
| 1 | 6-640 | 3/4 | ..... | 7/8 | ..... | B | 1.267 | 1.753 | 2.003 | 2-1/8 | .885 |
| 1 | 6-642 | ..... | 1 | ..... | 7/8 | B | 1.331 | 1.753 | 2.065 | 2-1/4 | 1.010 |
| 1 | 6-644 | ..... | ..... | ..... | ..... | B | 1.395 | 1.753 | 2.128 | 2-1/4 | 1.010 |
| 1 | 6-646 | 7/8 | ..... | 1 | ..... | B | 1.458 | 1.753 | 2.253 | 2-1/4 | 1.010 |
| *1 | 6-648 | ..... | 1-1/8 | ..... | 1 | B | 1.521 | 1.753 | 2.315 | 2-3/8 | 1.135 |
| 1 | 6-652 | 1 | ..... | 1-1/8 | ..... | B | 1.648 | 1.878 | 2.440 | 2-3/8 | 1.135 |
| 1 | 6-654 | ..... | 1-1/4 | ..... | 1-1/8 | B | 1.710 | 1.878 | 2.503 | 2-3/8 | 1.135 |

STANDARD LENGTH — DOUBLE SQUARE (8 PT.) OPENINGS FOR SQUARE NUTS

Finish — Rust Resistant

| | | | | | | | | | | | |
|--------|-------|-------|-------|-------|-------|---|-------|-------|-------|-------|------|
| 9/16 | 6-418 | ..... | ..... | 3/8 | 5/16 | A | .573 | 1.503 | 1.159 | 1-5/8 | .447 |
| 5/8 | 6-420 | ..... | ..... | 7/16 | 3/8 | A | .636 | 1.503 | 1.253 | 1-5/8 | .478 |
| 3/4 | 6-424 | ..... | ..... | 1/2 | 7/16 | B | .763 | 1.503 | 1.503 | 1-3/4 | .572 |
| *13/16 | 6-426 | ..... | ..... | ..... | 1/2 | B | .826 | 1.503 | 1.628 | 1-7/8 | .635 |
| 13/16 | 6-826 | ..... | ..... | ..... | 1/2 | B | .826 | 1.503 | 1.628 | 1-7/8 | .635 |
| 7/8 | 6-828 | 1/2 | ..... | 9/16 | 9/16 | B | .888 | 1.503 | 1.753 | 1-7/8 | .635 |
| 15/16 | 6-830 | ..... | ..... | 5/8 | ..... | B | .952 | 1.503 | 1.815 | 1-7/8 | .635 |
| 1 | 6-832 | ..... | ..... | ..... | 5/8 | B | 1.015 | 1.503 | 1.940 | 2 | .760 |
| 1 | 6-834 | 5/8 | ..... | 3/4 | ..... | B | 1.080 | 1.753 | 2.003 | 2 | .760 |
| 1 | 6-836 | ..... | ..... | ..... | 3/4 | B | 1.142 | 1.753 | 2.128 | 2-1/8 | .885 |
| 1 | 6-840 | 3/4 | ..... | 7/8 | ..... | B | 1.267 | 1.753 | 2.378 | 2-1/8 | .885 |

* Can be used for servicing Standard Budd Wheels.

† These sockets have single square openings.

For Retainer Pins and Neoprene Bands to fit above Sockets see Page 83.

† REGISTERED TRADE MARK

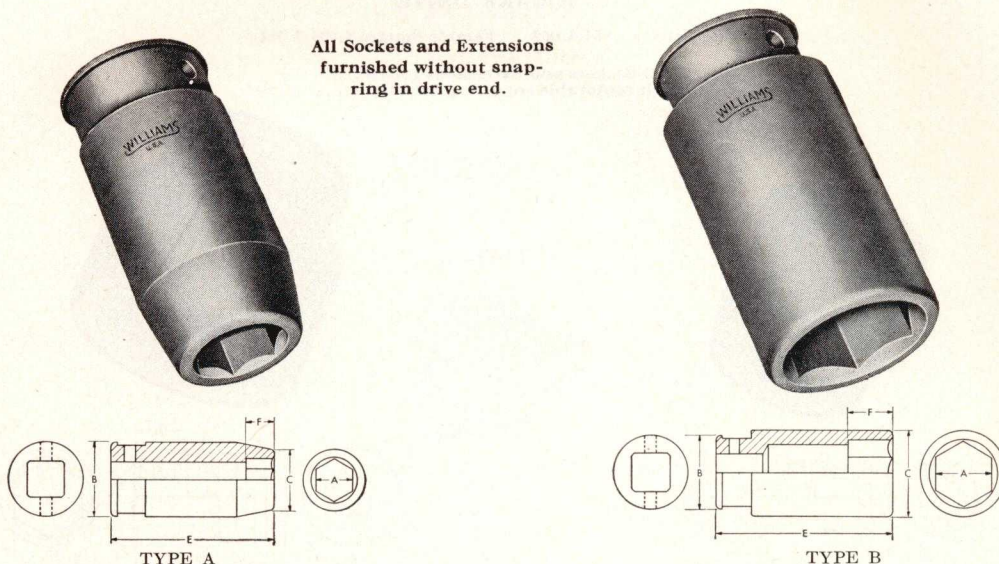
WILLIAMS' IMPACT "SUPERSOCKETS"

"6" SERIES — BOLT CLEARANCE LENGTH

3/4" SQUARE DRIVE

(Male Square .757-.759 Female Square .759-.764)

All Sockets and Extensions
furnished without snap-
ring in drive end.



| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|---|--------|--|---|--|--|------|--------------------|----------------------------|--------------------|------------------------|-----------------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |
| | | | | | | | | | | | |
| BOLT CLEARANCE LENGTH — SINGLE HEXAGON OPENINGS | | | | | | | | | | | |
| Finish — Rust Resistant | | | | | | | | | | | |
| 9/16 | 16-618 | ..... | 3/8 | 3/8 | 5/16 | A | .573 | 1.503 | 1.003 | 3-1/4 | .447 |
| 5/8 | 16-620 | ..... | 7/16 | 7/16 | 3/8 | A | .636 | 1.503 | 1.096 | 3-1/4 | .478 |
| 11/16 | 16-622 | 3/8 | ..... | ..... | ..... | A | .701 | 1.503 | 1.159 | 3-1/4 | .572 |
| 3/4 | 16-624 | ..... | 1/2 | 1/2 | 7/16 | A | .763 | 1.503 | 1.253 | 3-1/4 | .572 |
| 13/16 | 16-626 | ..... | 9/16 | ..... | 1/2 | A | .826 | 1.503 | 1.378 | 3-1/4 | .635 |
| 7/8 | 16-628 | 1/2 | 5/8 | 9/16 | 9/16 | B | .888 | 1.503 | 1.503 | 3-1/2 | .635 |
| 15/16 | 16-630 | ..... | ..... | 5/8 | ..... | B | .952 | 1.503 | 1.565 | 3-1/2 | .635 |
| 1 | 16-632 | ..... | 3/4 | ..... | 5/8 | B | 1.015 | 1.503 | 1.628 | 3-1/2 | .760 |
| 1 1/16 | 16-634 | 5/8 | ..... | 3/4 | ..... | B | 1.080 | 1.503 | 1.690 | 3-1/2 | .760 |
| 1 1/8 | 16-636 | ..... | 7/8 | ..... | 3/4 | B | 1.142 | 1.503 | 1.753 | 3-1/2 | .885 |
| 1 3/16 | 16-638 | ..... | ..... | ..... | ..... | B | 1.205 | 1.503 | 1.878 | 3-1/2 | .885 |
| 1 1/4 | 16-640 | 3/4 | ..... | 7/8 | ..... | B | 1.267 | 1.753 | 2.003 | 3-1/2 | .885 |
| 1 5/16 | 16-642 | ..... | 1 | ..... | 7/8 | B | 1.331 | 1.753 | 2.065 | 3-1/2 | .822 |
| 1 7/16 | 16-646 | 7/8 | ..... | 1 | ..... | B | 1.458 | 1.753 | 2.258 | 3-1/2 | .947 |
| *1 1/2 | 16-648 | ..... | 1-1/8 | ..... | 1 | B | 1.521 | 1.753 | 2.315 | 3-1/2 | .947 |
| 1 5/8 | 16-652 | 1 | ..... | 1-1/8 | ..... | B | 1.648 | 1.753 | 2.447 | 3-1/2 | 1.010 |

"6" SERIES ACCESSORIES

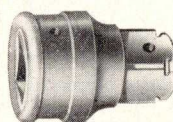
EXTENSIONS



Male Squares furnished with
through pin hole.

| No. | Lgth. | Square Male | Square Female |
|-------|-------|----------------|------------------|
| 6-107 | 7 | 3/4 | 3/4 |
| 6-110 | 10 | 3/4 | 3/4 |
| 6-113 | 13 | 3/4 | 3/4 |

ADAPTERS



| No. | Lgth. | Square Female | Square Male |
|-----|-------|------------------|----------------|
| 6-7 | 2-5/8 | 3/4 | 1 |

HEXAGON—SQUARE SHANKS



Male Squares furnished with
through pin hole.

| No. | Lgth. | Square Male | Hex Male |
|------|-------|----------------|-------------|
| 6-63 | 3 | 3/4 | 3/4 |

*Can be used for servicing Standard Budd Wheels.

For Retainer Pins and Neoprene Bands to fit above Sockets, Extensions and Adapters see Page 83.

◆ REGISTERED TRADE MARK

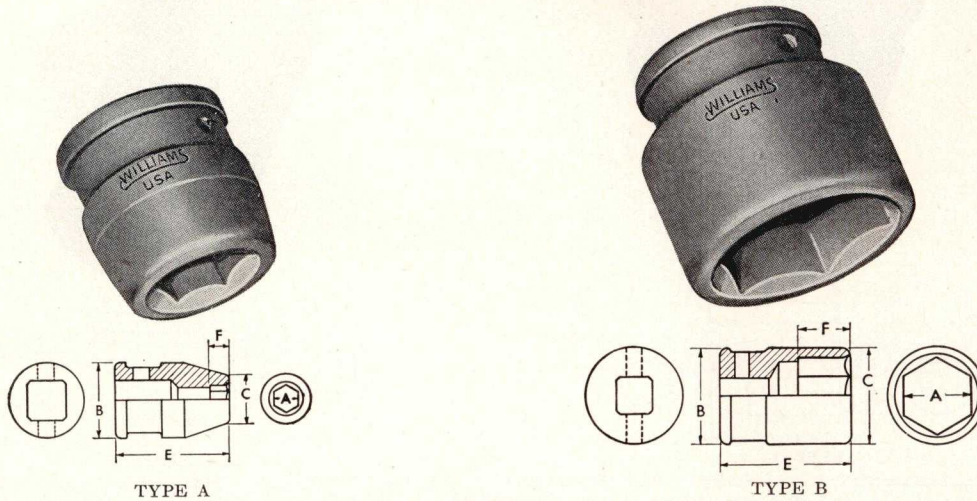
WILLIAMS' IMPACT "SUPERSOCKETS"

"7" SERIES — STANDARD LENGTH

1" SQUARE DRIVE

(Male Square 1.007-1.009 Female Square 1.009-1.014)

All Sockets and Extensions furnished with removable snap-ring in drive end.



| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|---|-------------------------------|---|-----------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|---------|-------|-------|-------|-------|-------|---|-------|-------|-------|---------|-------|
| 3/4 | 7-624 | ..... | 1/2 | 1/2 | 7/16 | A | .763 | 2.003 | 1.440 | 2- 1/16 | .572 |
| 13/16 | 7-626 | ..... | 9/16 | ..... | 1/2 | A | .826 | 2.003 | 1.503 | 2- 1/16 | .635 |
| 7/8 | 7-628 | 1/2 | 5/8 | 9/16 | 9/16 | A | .888 | 2.003 | 1.534 | 2- 1/16 | .666 |
| 15/16 | 7-630 | 9/16 | ..... | 5/8 | ..... | A | .952 | 2.003 | 1.596 | 2- 1/16 | .697 |
| 1 | 7-632 | ..... | 3/4 | ..... | 5/8 | A | 1.015 | 2.003 | 1.753 | 2- 1/16 | .697 |
| 1 1/16 | 7-634 | 5/8 | ..... | 3/4 | ..... | A | 1.080 | 2.003 | 1.753 | 2- 1/16 | .697 |
| 1 1/8 | 7-636 | ..... | 7/8 | ..... | 3/4 | A | 1.142 | 2.003 | 1.815 | 2- 3/16 | .822 |
| 1 1/4 | 7-640 | 3/4 | ..... | 7/8 | ..... | A | 1.267 | 2.128 | 2.003 | 2- 3/16 | .822 |
| 1 5/16 | 7-642 | ..... | 1 | ..... | 7/8 | A | 1.331 | 2.128 | 2.065 | 2- 3/16 | .822 |
| *1 3/8 | 7-644 | ..... | ..... | ..... | ..... | B | 1.395 | 2.128 | 2.128 | 2- 5/16 | .947 |
| 1 7/16 | 7-646 | 7/8 | ..... | 1 | ..... | B | 1.458 | 2.253 | 2.253 | 2- 5/16 | .947 |
| 1 1/2 | 7-648 | ..... | 1-1/8 | ..... | 1 | B | 1.521 | 2.253 | 2.315 | 2- 5/16 | .947 |
| 1 5/8 | 7-652 | 1 | ..... | 1-1/8 | ..... | B | 1.648 | 2.253 | 2.440 | 2- 7/16 | 1.010 |
| 1 11/16 | 7-654 | ..... | 1-1/4 | ..... | 1-1/8 | B | 1.710 | 2.253 | 2.565 | 2- 7/16 | 1.010 |
| 1 13/16 | 7-658 | 1-1/8 | ..... | 1-1/4 | ..... | B | 1.836 | 2.253 | 2.753 | 2- 9/16 | 1.135 |
| 1 7/8 | 7-660 | ..... | ..... | 1-1/4 | ..... | B | 1.898 | 2.253 | 2.753 | 2- 9/16 | 1.135 |
| 2 | 7-664 | 1-1/4 | ..... | 1-3/8 | ..... | B | 2.025 | 2.253 | 3.003 | 2-11/16 | 1.260 |
| *2 1/16 | 7-666 | ..... | ..... | 1-3/8 | ..... | B | 2.087 | 2.253 | 3.003 | 2-11/16 | 1.260 |
| *2 3/16 | 7-670 | 1-3/8 | ..... | 1-1/2 | ..... | B | 2.213 | 2.253 | 3.253 | 2-13/16 | 1.385 |
| *2 1/4 | 7-672 | ..... | ..... | 1-1/2 | ..... | B | 2.275 | 2.253 | 3.253 | 2-13/16 | 1.380 |

BOLT CLEARANCE LENGTHS — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|--------|--------|-------|-------|-------|-------|---|-------|-------|-------|--------|------|
| 1 3/16 | 17-638 | | | | | A | 1.205 | 2.128 | 1.878 | 3- 1/2 | .885 |
|--------|--------|-------|-------|-------|-------|---|-------|-------|-------|--------|------|

For Retainer Pins and Neoprene Bands to fit above Sockets see Page 83.

* DISCONTINUED: will supply until stock is exhausted.

♦ REGISTERED TRADE MARK

1-52

WILLIAMS' IMPACT + "SUPERSOCKETS"

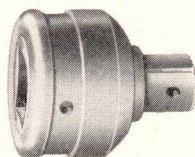
"7" SERIES

1" SQUARE DRIVE

(Male Square 1.007-1.009 Female Square 1.009-1.014)

ACCESSORIES

ADAPTERS



| No. | Length | Square Female | Square Male |
|-----|--------|---------------|-------------|
| 7-6 | 3 | 1 | 3/4 |

EXTENSIONS



Male squares are furnished with through pin hole.

| No. | Length | Square Male | Square Female |
|-------|--------|-------------|---------------|
| 7-106 | 6 | 1 | 1 |
| 7-112 | 12 | 1 | 1 |

HEXAGON — SQUARE SHANKS



Male squares are furnished with through pin hole.

| No. | Length | Square Male | Hex Male |
|------|--------|-------------|----------|
| 7-64 | 3-9/16 | 1 | 3/4 |

For Retainer Pins and Neoprene Bands to fit above Extensions and Adapters see Page 83.

◆ REGISTERED TRADE MARK

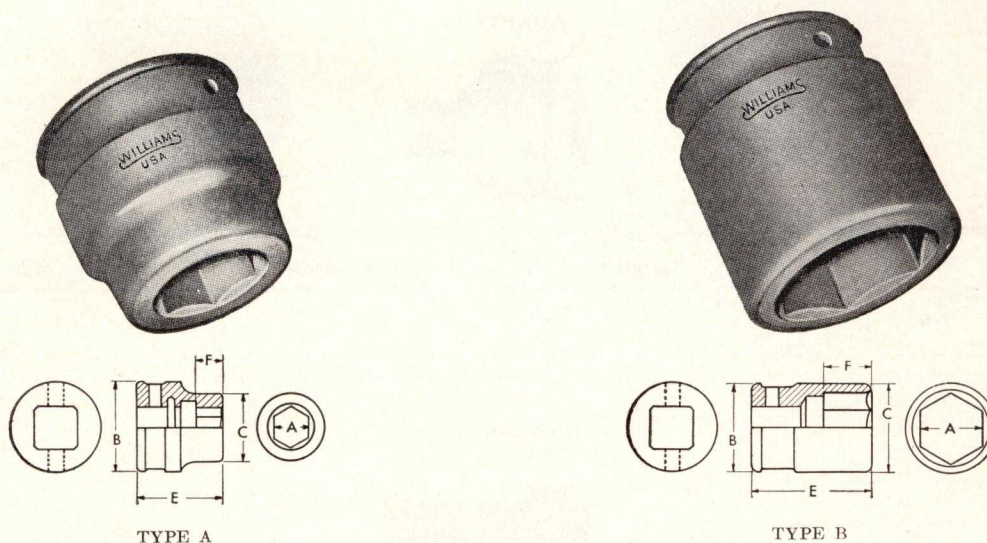
WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

"8" SERIES — STANDARD LENGTH

1-1/2" SQUARE DRIVE

(Male Square 1.503-1.505 Female Square 1.505-1.510)

All Sockets furnished with
removable snap-ring in drive end.



| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|--------------------|-----|--|--|--|--|------|-------------------------|----------------------------|--------------------|------------------------|-----------------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | Nominal Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

STANDARD LENGTH — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|---------|-------|-------|-------|-------|-------|---|-------|-------|-------|-------|-------|
| 1 5/16 | 8-642 | ..... | 1 | ..... | 7/8 | A | 1.331 | 3.253 | 2.503 | 3-1/8 | 1.010 |
| *1 3/8 | 8-644 | ..... | ..... | ..... | ..... | A | 1.395 | 3.253 | 2.753 | 3-1/8 | 1.010 |
| 1 7/16 | 8-646 | 7/8 | ..... | 1 | ..... | A | 1.458 | 3.253 | 2.753 | 3-1/8 | 1.010 |
| 1 1/2 | 8-648 | ..... | 1-1/8 | ..... | 1 | A | 1.521 | 3.253 | 2.878 | 3-1/8 | 1.010 |
| 1 5/8 | 8-652 | 1 | ..... | 1-1/8 | ..... | A | 1.648 | 3.253 | 3.003 | 3-1/8 | 1.010 |
| 1 11/16 | 8-654 | ..... | 1-1/4 | ..... | 1-1/8 | A | 1.710 | 3.253 | 3.003 | 3-1/8 | 1.010 |
| 1 13/16 | 8-658 | 1-1/8 | ..... | ..... | ..... | A | 1.836 | 3.253 | 3.128 | 3-1/4 | 1.135 |
| 1 7/8 | 8-660 | ..... | ..... | ..... | 1-1/4 | A | 1.898 | 3.253 | 3.128 | 3-1/4 | 1.135 |
| 2 | 8-664 | 1-1/4 | ..... | 1-3/8 | ..... | B | 2.025 | 3.253 | 3.253 | 3-3/4 | 1.260 |
| 2 1/16 | 8-666 | ..... | ..... | ..... | 1-3/8 | B | 2.087 | 3.253 | 3.503 | 3-7/8 | 1.260 |
| 2 1/8 | 8-668 | ..... | ..... | ..... | ..... | B | 2.151 | 3.253 | 3.503 | 3-7/8 | 1.260 |
| 2 3/16 | 8-670 | 1-3/8 | ..... | 1-1/2 | ..... | B | 2.213 | 3.253 | 3.503 | 3-7/8 | 1.260 |

For Retainer Pins and Neoprene Bands to fit above sockets see Page 83.

* DISCONTINUED: will supply until stock is exhausted.

♦ REGISTERED TRADE MARK

1-52

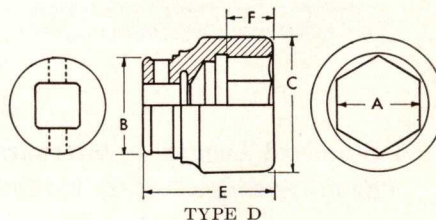
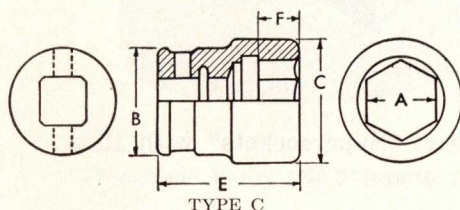
WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

"8" SERIES — STANDARD LENGTH

1-1/2" SQUARE DRIVE

(Male Square 1.503-1.505 Female Square 1.505-1.510)

All Sockets and Extensions furnished with removable snap-ring in drive end.



| Nominal Opening | No. | FOR HEX NUTS AND CAP SCREWS | | | | Type | MAXIMUM DIMENSIONS | | | | |
|-----------------|-----|---|---|---|-----------------------------------|------|--------------------|-------------------|--------------|------------------|-----------------|
| | | Amer. Std. HEAVY Nut (U.S.S.) Size Bolt | Amer. Std. Hex Head Cap Screw Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.) Size Bolt | Amer. Std. REGULAR Nut; Size Bolt | | Nominal Opening A | Diam. Drive End B | Diam. Nose C | Length Overall E | Depth Opening F |

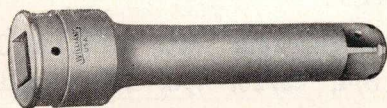
STANDARD LENGTH — SINGLE HEXAGON OPENINGS

Finish — Rust Resistant

| | | | | | | | | | | | |
|----------|--------|-------|--|--|-------|---|-------|-------|-------|-------|-------|
| 2 1/4 | 8-672 | | | | 1-1/2 | C | 2.275 | 3.253 | 3.753 | 4 | 1.385 |
| 2 3/8 | 8-676 | 1-1/2 | | | | C | 2.401 | 3.253 | 3.878 | 4-1/8 | 1.385 |
| 2 7/16 | 8-678 | | | | 1-5/8 | C | 2.464 | 3.253 | 3.878 | 4-1/8 | 1.385 |
| 2 9/16 | 8-682 | 1-5/8 | | | | D | 2.591 | 3.253 | 4.003 | 4-1/4 | 1.572 |
| 2 5/8 | 8-684 | | | | 1-3/4 | D | 2.653 | 3.253 | 4.128 | 4-1/4 | 1.572 |
| 2 3/4 | 8-688 | 1-3/4 | | | | D | 2.780 | 3.253 | 4.253 | 4-3/8 | 1.572 |
| *2 15/16 | 8-694 | 1-7/8 | | | | D | 2.967 | 3.253 | 4.503 | 4-1/2 | 1.635 |
| *3 | 8-696 | | | | 2 | D | 3.030 | 3.253 | 4.503 | 4-5/8 | 1.635 |
| *3 1/8 | 8-6100 | 2 | | | | D | 3.157 | 3.253 | 4.753 | 4-5/8 | 1.760 |
| *3 3/8 | 8-6108 | | | | 2-1/4 | D | 3.407 | 3.253 | 5.003 | 4-5/8 | 1.760 |
| *3 1/2 | 8-6112 | 2-1/4 | | | | D | 3.534 | 3.253 | 5.128 | 4-5/8 | 1.760 |

"8" SERIES ACCESSORIES

EXTENSIONS



| No. | Length | Square Male | Square Female |
|-------|--------|-------------|---------------|
| 8-106 | 6 | 1-1/2 | 1-1/2 |
| 8-112 | 12 | 1-1/2 | 1-1/2 |

Male squares of Extensions furnished with through pin hole.

For Retainer Pins and Neoprene Bands to fit above sockets and extensions see Page 83.

* DISCONTINUED: will supply until stock is exhausted.

♦ REGISTERED TRADE MARK

WILLIAMS' IMPACT + "SUPERSOCKET" SETS

"4" SERIES — STANDARD LENGTH

1/2" SQUARE DRIVE

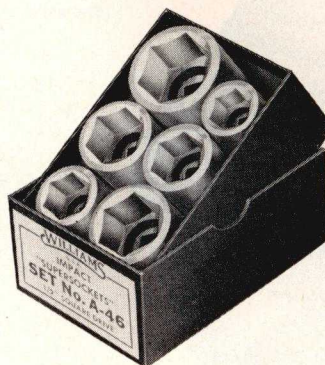
(Male Square .501-.503 Female Square .504-.506)

SET No. A-46

Complete in Cardboard Box

6 Pieces

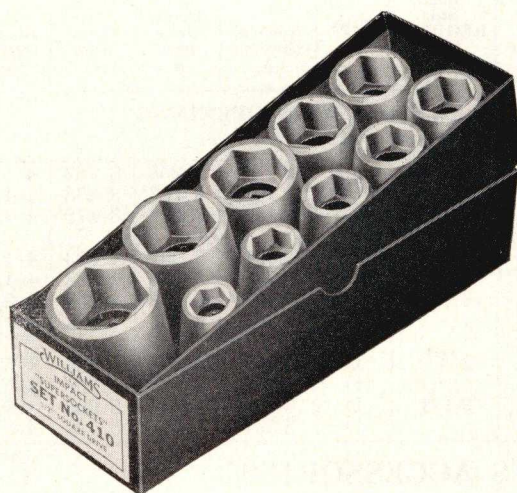
Weight, 1-1/4 lbs.



CONTENTS

6 Standard Length — Alternate Design Impact "Supersockets" with Hexagon Openings — 1/2, 9/16, 5/8, 11/16, 3/4 and 7/8".

For Part Numbers and Dimensions See A-4 Series Standard Length Sockets as Listed on Page 68.



SET No. 410

Complete
In Cardboard Box

10 Pieces

Weight, 1-3/4 lbs.

CONTENTS

10 Standard Length Impact Design "Supersockets" with Hexagon Openings — 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16 and 1".

For Part Numbers and Dimensions See 4 Series Standard Length Sockets as Listed on Page 68.

WILLIAMS' IMPACT "SUPERSOCKETS"

NEOPRENE BANDS
AND RETAINER PINS

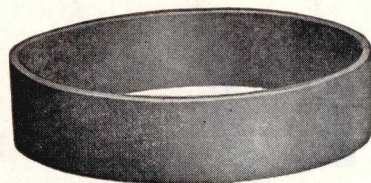
for

"4" thru "8" SERIES

1/2, 5/8, 3/4, 1 and 1-1/2" Square Drives

Neoprene Bands are specially designed for resistance to oil and grease.

Retainer Pins are made of selected steel—oil finished.



Neoprene Bands and Retainer Pins are packaged separately, 24 of each to a box.

SPECIFICATIONS

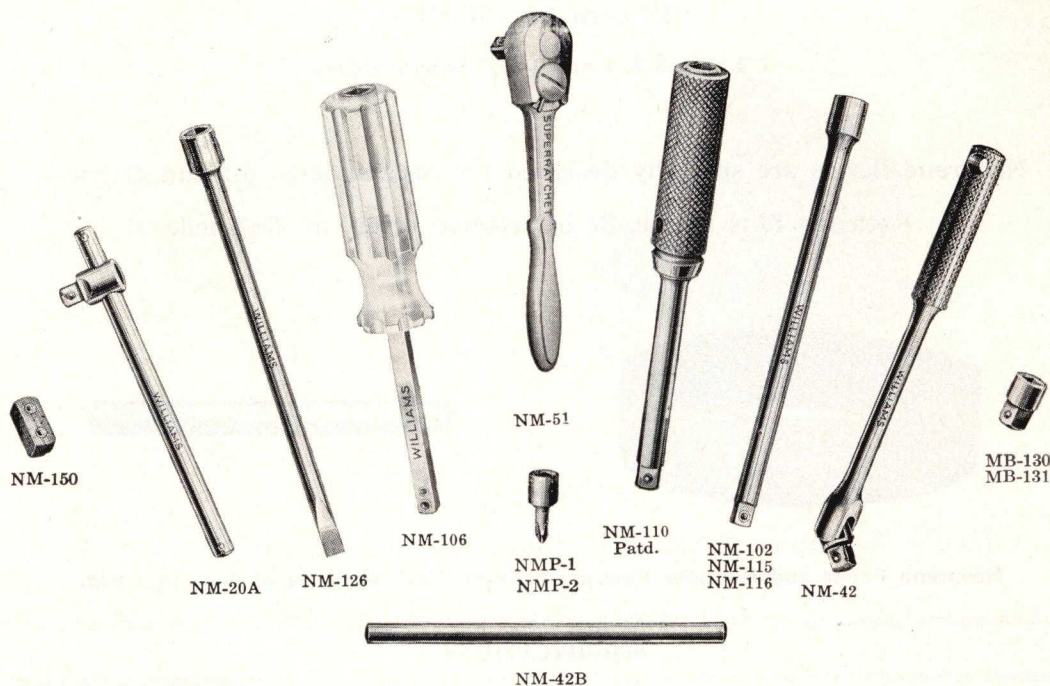
| Square Drive Size | Socket and Extension Nos. | NEOPRENE BANDS | | RETAINER PINS | | |
|-------------------------|---------------------------------|----------------|--------------------|---------------|------------|--------|
| | | Type | Inside Diameter | Type | Dimensions | |
| | | | | | Diameter | Length |
| 1/2" | 4-612 thru 4-628 | A | 7/8 | A | 3/16 | 7/8 |
| | 4-630 thru 4-640 | B | 1-1/8 | B | 3/16 | 1-1/8 |
| | 4-105 & 4-110 | A | 7/8 | A | 3/16 | 7/8 |
| | 4-105A & 4-110A | A | 7/8 | A | 3/16 | 7/8 |
| 5/8" | 5-616 thru 5-630 | B | 1-1/8 | B | 3/16 | 1-1/8 |
| | 5-632 thru 5-648 | C | 1-3/8 | B | 3/16 | 1-1/8 |
| | 5-106 & 5-110 | B | 1-1/8 | B | 3/16 | 1-1/8 |
| | 5-106A & 5-110A | B | 1-1/8 | B | 3/16 | 1-1/8 |
| 3/4" | 6-616 thru 6-638 | C | 1-3/8 | B | 3/16 | 1-1/8 |
| | 6-640 thru 6-654 | D | 1-5/8 | C | 3/16 | 1-1/2 |
| | 6-418 thru 6-426 | C | 1-3/8 | B | 3/16 | 1-1/8 |
| | 6-826 thru 6-832 | C | 1-3/8 | B | 3/16 | 1-1/8 |
| | 6-834 thru 6-840 | D | 1-5/8 | C | 3/16 | 1-1/2 |
| | 16-618 thru 16-638 | C | 1-3/8 | B | 3/16 | 1-1/8 |
| | 16-640 thru 16-652 | D | 1-5/8 | C | 3/16 | 1-1/2 |
| | 6-107, 6-110, 6-113 | C | 1-3/8 | C | 3/16 | 1-1/2 |
| | 6-7 | C | 1-3/8 | C | 3/16 | 1-1/2 |
| | | | | | | |
| 1" | 7-624 thru 7-672 | E | 1-7/8 | D | 3/16 | 1-7/8 |
| | 7-106 & 7-112 | E | 1-7/8 | D | 3/16 | 1-7/8 |
| | 7-6 | E | 1-7/8 | D | 3/16 | 1-7/8 |
| | 17-638 | E | 1-7/8 | D | 3/16 | 1-7/8 |
| 1-1/2" | 8-642 thru 8-6112 | F | 2-7/8 | E | 1/4 | 2-7/8 |
| | 8-106 & 8-112 | F | 2-7/8 | E | 1/4 | 2-7/8 |

♦ REGISTERED TRADE MARK

WILLIAMS' "SUPERSOCKET" WRENCHES
Selected Alloy Steel

MIDGET PATTERN—1/4" SQUARE DRIVE

HANDLES and PARTS



| No. | PIECE | Weight Each, Lbs. | No. |
|--------|--|-------------------|--------|
| NM-20A | Sliding T Handle—4-1/2" long..... | .1 | NM-20A |
| NM-42 | Flex Handle only—5-3/4" long; flexible head, knurled grip, crosshole for use with Sliding Bar..... | .25 | NM-42 |
| NM-42B | Sliding Bar, 1/4" x 4-1/2", for NM-42..... | .08 | NM-42B |
| NM-51 | Reversible Ratchet—4-1/2" long. 24 teeth in Ratchet-gear instead of usual 14 to 20. Turning shift-lever reverses action instantly..... | .16 | NM-51 |
| NM-102 | Extension—2" long..... | .06 | NM-102 |
| NM-106 | Extension—Driver has plastic grip with 1/4" square drive-opening in end—6" long | .19 | NM-106 |
| NM-110 | Extension—Driver has lockable-revolving, knurled handle with 1/4" square drive-opening in end. May be used either as an Extension with handy revolving grip for spinning nuts, or as a Driver with handle locked. A slight turn of the handle locks and unlocks same instantly. 5-3/8" long..... | .34 | NM-110 |
| NM-115 | Extension—6" long..... | .17 | NM-115 |
| NM-116 | Extension—14" long..... | .35 | NM-116 |
| NM-126 | Regular Screw Driver Socket Attachment—6" long..... | .09 | NM-126 |
| MB-130 | Adapter—1/4" square female and 3/8" square male. Adapts Handles with 1/4" square drive to Sockets with 3/8" square drive..... | .05 | MB-130 |
| MB-131 | Adapter—1/4" square male and 3/8" square female. Adapts Sockets with 1/4" square drive to Handles with 3/8" square drive plug..... | .05 | MB-131 |
| NM-150 | Plug Adapter 3/4" long; both ends 1/4" square male..... | .02 | NM-150 |
| NMP-1 | Phillips Screw Driver Socket Attachment—No. 1 Phillips Drive to fit screws No. 4 and smaller..... | .02 | NMP-1 |
| NMP-2 | Phillips Screw Driver Socket Attachment—No. 2 Phillips Drive to fit screws Nos. 5 to 9 inclusive..... | .03 | NMP-2 |

WILLIAMS' "SUPERSOCKET" WRENCHES

Selected Alloy Steel

MIDGET PATTERN — 1/4" SQUARE DRIVE

SOCKETS



Regular
6-Point and 12-Point
Openings



Extra Deep
6-Point and 12-Point
Openings



Regular
4-Point and 8-Point
Openings

Williams' Midget Electrical Sockets are unequalled in cramped quarters and for delicate adjustments. Invaluable time-savers on Generators, Wiring-connections, Radios, etc.

Their thin, straight walls enable them to operate readily on troublesome little jobs where no ordinary socket or wrench could even get in and grip the nut. Furnished with openings as listed.

Accurately made from Selected Alloy Steel, heat-treated and chrome-plated. Uniformity of product and tough, dependable strength are assured.

All Sockets packed 6 in a box.

| Nominal Opening | 6 AND 12-POINT OPENINGS FOR HEX NUTS | | | | | | | | | | 4 AND 8-POINT OPENINGS | | |
|--------------------|--------------------------------------|-----------------------|---------------------|-----------------------|--|-----------------------|---|---|---|--|---------------------------|-----------------------|--------------------|
| | 6-Point Sockets | | 12-Point Sockets | | *Extra Deep 6 and 12-Point Sockets | | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Head Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. Machine Screw Hex Nut | Socket No. | Wgt. Each, Lbs. | Nominal Opening |
| | No. | Wgt. Each, Lbs. | No. | Wgt. Each, Lbs. | No. | Wgt. Each, Lbs. | | | | | | | |
| 3/16 | NM-606 | .01 | | | | | | | | No. 2 & 3 | NM-406 | .03 | 3/16 |
| 7/32 | NM-607 | .02 | | | | | | | | | NM-407 | .03 | 7/32 |
| 1/4 | NM-608 | .02 | | | NMD-608 | .03 | | | | 4 | NM-408 | .03 | 1/4 |
| 9/32 | NM-609 | .02 | | | NMD-609 | .03 | | | | | | | |
| 5/16 | | | NM-1210 | .02 | NMD-1210 | .04 | 1/8 | 1/8 | | 5 & 6 | NM-810 | .03 | 5/16 |
| 11/32 | | | NM-1211 | .03 | NMD-1211 | .04 | | | | 8 | | | |
| 3/8 | | | NM-1212 | .03 | NMD-1212 | .04 | | 3/16 | | 10 | NM-812 | .05 | 3/8 |
| 7/16 | | | NM-1214 | .04 | NMD-1214 | .04 | | 1/4 | 1/4 | 12 & 1/4 | | | |
| 1/2 | | | NM-1216 | .05 | | | 1/4 | 5/16 | 5/16 | | | | |

* 2" long.

◆ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel

MIDGET PATTERN

1/4" SQUARE DRIVE



SET No. NM-1

Complete in Metal Case

11 Pieces

9 Sockets and 2 Attachments

Total Weight, 1-1/8 lbs.

2 Color Steel Case Only

1-1/8 x 2-1/8 x 7"

Weight, 5/8 lb.

CONTENTS

- 9 Midget "Supersockets"—4 6-point openings—3/16, 7/32, 1/4 and 9/32";
5 12-point openings—5/16, 11/32, 3/8, 7/16 and 1/2".
1 NM-20A—Sliding T Handle, 4-1/2" long.
1 NM-106—Extension Driver with Plastic Grip.

SET No. NM-2

Complete in Metal Case

13 Pieces

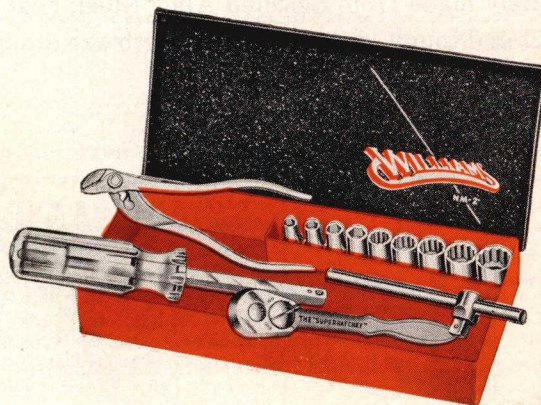
9 Sockets, 3 Attachments
and 1 Plier

Total Weight, 1-5/8 lbs.

2 Color Steel Case Only

1-1/8 x 3-1/4 x 7-1/2"

Weight, 7/8 lb.



CONTENTS

- 9 Midget "Supersockets"—4 6-point openings—3/16, 7/32, 1/4 and 9/32";
5 12-point openings—5/16, 11/32, 3/8, 7/16 and 1/2".
1 NM-20A—Sliding T Handle, 4-1/2" long.
1 NM-51—Reversible Ratchet, 4-1/2" long.
1 NM-106—Extension Driver with Plastic Grip.
1 1519—Midget "Superplier", 4-1/2" long.

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS
Selected Alloy Steel
MIDGET PATTERN

1/4" SQUARE DRIVE



Williams' new "Supersocket" Set Boxes have been carefully designed to give the utmost in utility and sturdiness. Covers are finished in Black Satin Wrinkle, bodies in brilliant Williams' Orange Enamel, baked on.

SET No. NM-3

Complete in Metal Case

7 Pieces - 6 Sockets and 1 Attachment

Total Weight, 1-1/8 lbs.

2 Color Steel Case Only

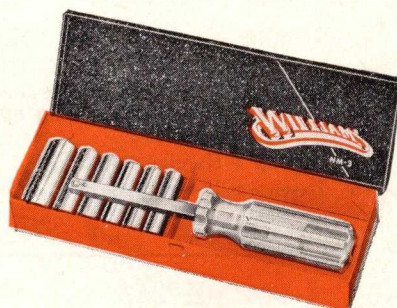
1-1/8 x 2-1/8 x 7"

Weight, 5/8 lb.

CONTENTS

6 Midget Extra Deep "Supersockets"—2 6-point openings—1/4 and 9/32"; 4 12-point openings—5/16, 11/32, 3/8 and 7/16".

1 NM-106 — Extension Driver with Plastic Grip.



SET No. NM-4

Complete in Metal Case

7 Pieces - 6 Sockets and 1 Attachment

Total Weight, 1 lb.

2 Color Steel Case Only

1-1/8 x 2-1/8 x 7"

Weight, 5/8 lb.

CONTENTS

6 Midget Extra Deep "Supersockets"—2 6-point openings—1/4 and 9/32"; 4 12-point openings—5/16, 11/32, 3/8 and 7/16".

1 NM-51 — Reversible Ratchet, 4-1/2" long.



WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS
Selected Alloy Steel

MIDGET PATTERN

1/4" SQUARE DRIVE



SET No. NM-5

Complete in Metal Case

17 Pieces

**9 Sockets, 2 Attachments, 5 Wrenches
and 1 Plier**

Total Weight, 1-5/8 lbs.

2 Color Steel Case Only

1-1/8 x 3-1/4 x 7-1/2"

Weight, 7/8 lb.

CONTENTS

- 9 Midget "Supersockets"**—4 6-point openings—3/16, 7/32, 1/4 and 9/32"; 5 12-point openings—5/16, 11/32, 3/8, 7/16 and 1/2".
- 1 NM-20A**—Sliding T Handle, 4-1/2" long.
- 1 NM-106**—Extension Driver with Plastic Grip.

- 1 1519**—Midget "Superplier", 4-1/2" long.
- 5 Midget "Superrenches"**, 3 to 3-1/2" long, openings—13/64 & 7/32, 15/64 & 1/4, 9/32 & 11/32 1/4 & 5/16 and 5/16 & 3/8".

SET No. NM-6

Complete in Metal Case

23 Pieces

**14 Sockets, 3 Attachments, 5 Wrenches
and 1 Plier**

Total Weight, 2-1/8 lbs.

2 Color Steel Case Only

1-1/8 x 3-1/4 x 7-1/2"

Weight, 1 lb.



CONTENTS

- 9 Midget "Supersockets"**—4 6-point openings—3/16, 7/32, 1/4 and 9/32"; 5 12-point openings—5/16, 11/32, 3/8, 7/16 and 1/2".
- 5 Midget "Supersockets"**—3 4-point openings—3/16, 7/32 and 1/4"; 2 8-point openings—5/16 and 3/8".
- 1 NM-20A**—Sliding T Handle, 4-1/2" long.
- 1 NM-51**—Reversible Ratchet, 4-1/2" long.

- 1 NM-110**—Extension Driver, 5-3/8" long.
- 1 1519**—Midget "Superplier", 4-1/2" long.
- 5 Midget "Superrenches"**, 3 to 3-1/2" long, openings—13/64 & 7/32, 15/64 & 1/4, 9/32 & 11/32, 1/4 & 5/16 and 5/16 & 3/8".

♦ **REGISTERED TRADE MARK**

1-52

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS
Selected Alloy Steel
MIDGET PATTERN

1/4" SQUARE DRIVE

SET No. NM-7

Complete in Metal Case

22 Pieces

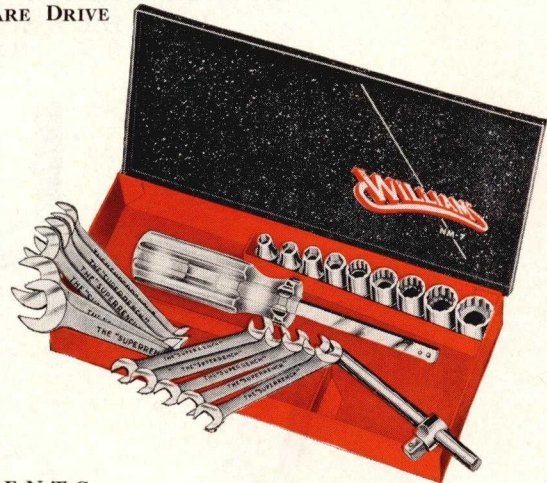
9 Sockets, 2 Attachments and 11 Wrenches

Total Weight, 1-3/4 lbs.

2 Color Steel Case Only

1-1/8 x 3-1/4 x 7-1/2"

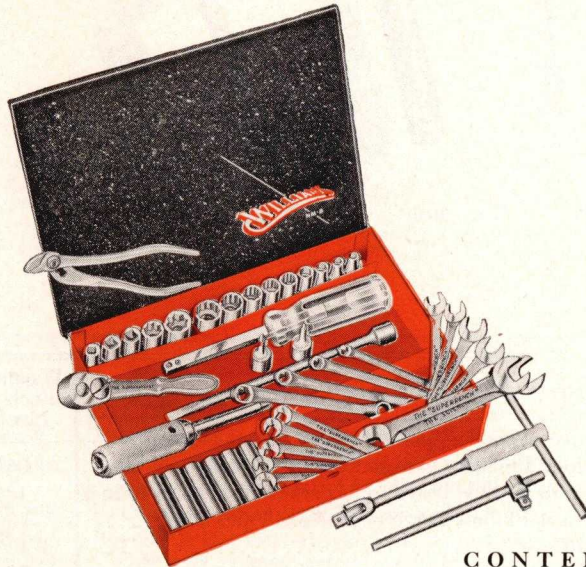
Weight, 7/8 lb.



CONTENTS

- 9 Midget "Supersockets"—4 6-point openings—3/16, 7/32, 1/4 and 9/32"; 5 12-point openings—5/16, 11/32, 3/8, 7/16 and 1/2".
- 1 NM-20A—Sliding T Handle, 4-1/2" long.

- 1 NM-106—Extension Driver with Plastic Handle.
- 11 Midget "Superrenches"—15-75° angle openings—3/16, 13/64, 7/32, 15/64, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16 and 1/2".



SET No. NM-8

Complete in Metal Case

45 Pieces

20 Sockets, 9 Attachments, 15 Wrenches
and 1 Plier

Total Weight, 4 lbs.

2 Color Steel Case Only

1-3/8 x 5-7/8 x 8"

Weight, 1-5/8 lbs.

CONTENTS

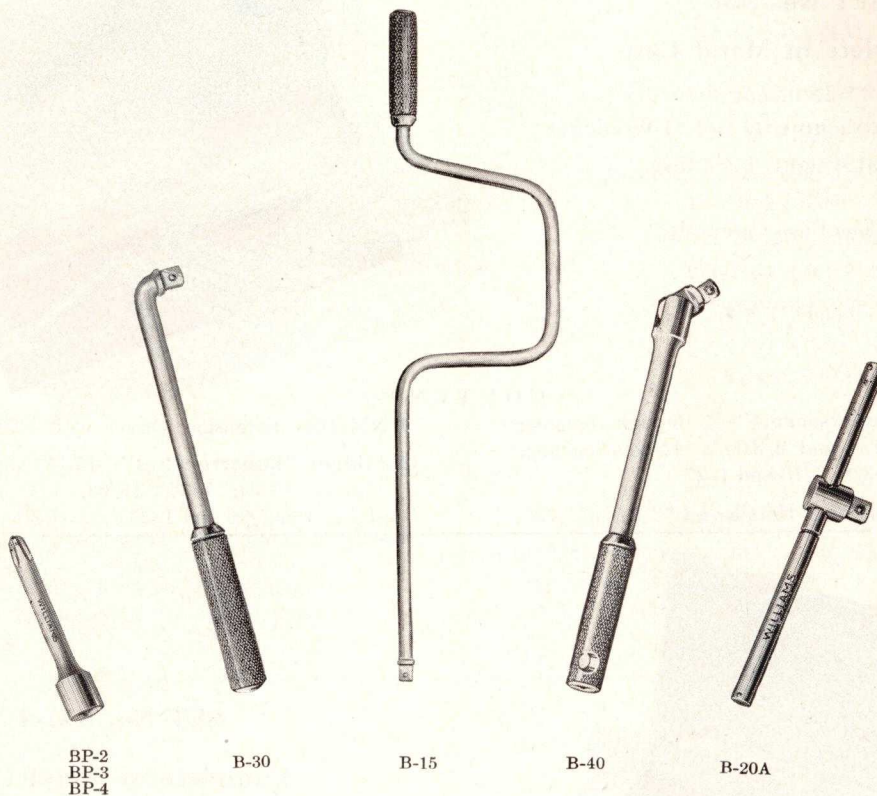
- 9 Midget "Supersockets"—4 6-point openings—3/16, 7/32, 1/4 and 9/32"; 5 12-point openings—5/16, 11/32, 3/8, 7/16 and 1/2".
- 5 Midget "Supersockets"—3 4-point openings—3/16, 7/32 and 1/4"; 2 8-point openings—5/16 and 3/8".
- 6 Midget Extra Deep "Supersockets"—2 6-point openings—1/4 and 9/32"; 4 12-point openings—5/16, 11/32, 3/8 and 7/16".
- 1 NM-20A—Sliding T Handle, 4-1/2" long.
- 1 NM-42—Flex Handle, 5-3/4" long.
- 1 NM-42B—Sliding Bar for NM-42.
- 1 NM-51—Reversible Ratchet, 4-1/2" long.

- 1 NM-106—Extension Driver with Plastic Grip.
- 1 NM-110—Extension Driver, 5-3/8" long.
- 1 NM-126—Regular Screw Driver Attachment.
- 1 NMP-1—Phillips Screw Driver Attachment.
- 1 NMP-2—Phillips Screw Driver Attachment.
- 1 1519—Midget "Superplier", 4-1/2" long.
- 4 Midget Box "Superrenches" with openings 13/64 & 3/16, 15/64 & 7/32, 9/32 & 1/4 and 11/32 & 5/16".
- 11 Midget "Superrenches"—15-75° angle openings, 3/16, 13/64, 7/32, 15/64, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16 and 1/2".

♦ REGISTERED TRADE MARK

WILLIAMS' ♦"SUPERSOCKET" WRENCHES
Selected Alloy Steel

BANTAM PATTERN — 3/8" SQUARE DRIVE
HANDLES and PARTS



| No. | PIECE | Weight Each, Lbs. |
|-------|--|-------------------|
| BP-2 | Phillips Screw Driver Socket Attachment—No. 2 Phillips Drive to fit Screws Nos. 5 to 9 incl... | .06 |
| BP-3 | Phillips Screw Driver Socket Attachment—No. 3 Phillips Drive to fit Screws Nos. 10 to 16 incl. | .13 |
| BP-4 | Phillips Screw Driver Socket Attachment—No. 4 Phillips Drive to fit No. 18 and larger..... | .13 |
| B-15 | Speeder—16-1/2" long; Knurled revolving grip..... | 1.1 |
| B-20A | Sliding T Handle—6-1/2" long..... | .26 |
| B-30 | Offset Handle—7-3/4" long; Knurled grip..... | .50 |
| B-40 | Flex Handle—8-1/2" long; flexible head. Knurled grip with 3/8" square drive hole in end; 3/8" cross hole for Sliding Bar—may be used as Extension..... | .57 |
| B-42B | Sliding Bar, 5/16" rd. x 6", for B-40..... | .08 |

ADJUSTABLE CROWFOOT ATTACHMENT

PATENT APPLIED FOR

No. BC-6 — Capacity, 3/4"



May be used with any combination of 3/8" square drive Handles or Parts. This ingenious attachment combines the flexibility of the detachable socket system with all the advantages of the adjustable wrench.

Weight, .19 Lb.

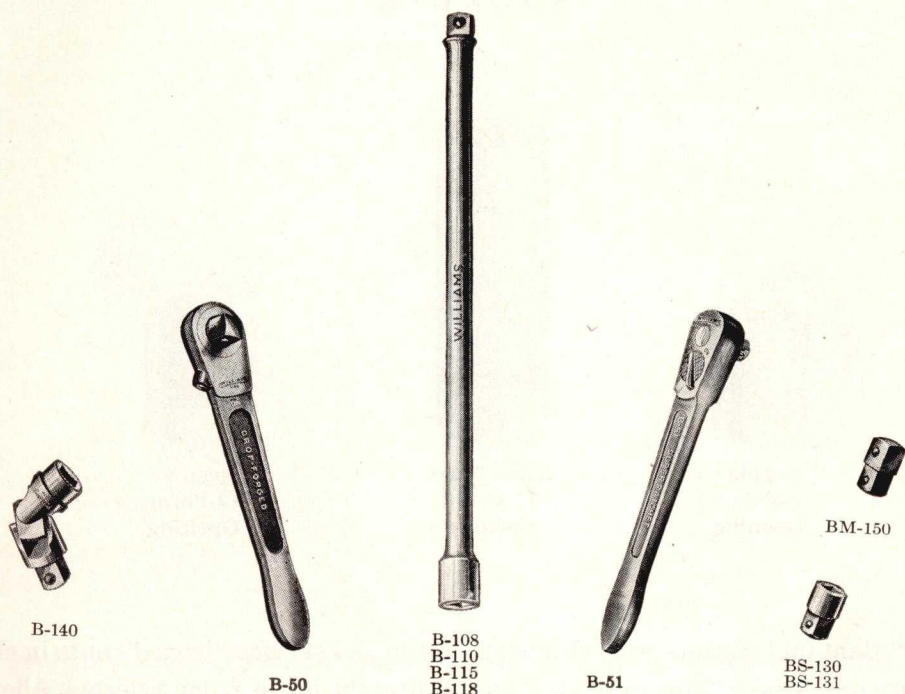


♦REGISTERED TRADE MARK

1-52

WILLIAMS' ♦ "SUPERSOCKET" WRENCHES
Selected Alloy Steel

BANTAM PATTERN — 3/8" SQUARE DRIVE
HANDLES and PARTS



| No. | PIECE | Weight Each, Lbs. |
|--------|---|-------------------|
| B-50 | Drop-Forged Ratchet—6-1/2" long; complete with No. B-150 Plug-Connector..... | .43 |
| B-50A | Ratchet—Same as B-50 above, but with 1/4" square drive-opening in ratchet wheel and 1/4" square hole near end of handle, for Refrigeration Service. Without Plug-Connector..... | .43 |
| B-50B | Ratchet—Same as B-50, but with 5/16" square drive-opening. No Plug-Connector..... | .43 |
| B-51 | Reversible Ratchet—6-1/2" long. 24 teeth in ratchet-gear instead of usual 14 or 16. Turning shift-lever reverses action instantly..... | .44 |
| B-51A | Reversible Ratchet for Refrigeration Service—same as B-51, but has both 3/8" sq. male and 1/4" sq. female ratchet drive. Also has 3/16" and 1/4" sq. drive holes in handle end..... | .44 |
| B-108 | Extension Bar—3" long..... | .16 |
| B-110 | Extension Bar—5-1/2" long..... | .23 |
| B-115 | Extension Bar—10-1/2" long..... | .44 |
| B-118 | Extension Bar—18" long..... | .84 |
| BS-130 | Adapter—3/8" square female and 1/2" square male..... | .13 |
| BS-131 | Adapter—3/8" square male and 1/2" square female..... | .15 |
| B-140 | Universal Joint—Fitted with spring tension to maintain operating angle desired—range approx. 140°..... | .13 |
| B-150 | Ratchet Plug-Connector for B-50 Ratchet..... | .03 |
| BM-150 | Adapter—3/8" square male and 1/4" square male..... | .03 |

♦ REGISTERED TRADE MARK

WILLIAMS' "SUPERSOCKET" WRENCHES
Selected Alloy Steel

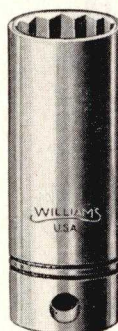
BANTAM PATTERN

3/8" Square Drive

SOCKETS



**Regular
6-Point
Opening**



**Extra Deep
12-Point
Opening**



**Regular
12-Point
Opening**

Williams' "Bantam" Sockets with thin walls get in and service "buried" nuts in close and awkward corners. These "Supersockets" are accurately made from Selected Alloy Steel, heat-treated and chrome-plated. All Sockets packed 6 in a box.

| Size Open- ing | 6 Pt. Opngs | | 12-Point Openings | | | | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Hd. Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. | |
|----------------------|-------------|-------------|-------------------|-------------|-------------|-------------|---|--|---|---------------|----------------|
| | Regular | | Regular | | ‡Extra Deep | | | | | REGLR. Nut | Mach. Screw |
| | No. | Wgt. Ea. | No. | Wgt. Ea. | No. | Wgt. Ea. | | | | | |
| 1/4 | B-608 | .04 | | | | | | | | | No. 4 |
| 5/16 | B-610 | .04 | B-1210 | .04 | | | 1/8 | 1/8 | | | 5 & 6 |
| 11/32 | B-611 | .05 | B-1211 | .05 | | | | | | | 8 |
| 3/8 | B-612 | .05 | B-1212 | .05 | BD-1212 | .09 | | 3/16 | | | 10 |
| 7/16 | B-614 | .05 | B-1214 | .05 | BD-1214 | .1 | | 1/4 | 1/4 | 1/4 | 12-1/4 |
| 1/2 | B-616 | .06 | B-1216 | .06 | BD-1216 | .1 | 1/4 | 5/16 | 5/16 | | |
| 17/32 | | | B-1217 | .07 | | | | | | | |
| 9/16 | B-618 | .07 | B-1218 | .07 | BD-1218 | .13 | | 3/8 | 3/8 | 5/16 | 5/16 |
| 19/32 | | | B-1219 | .08 | | | 5/16 | | | | |
| 5/8 | B-620 | .09 | B-1220 | .09 | BD-1220 | .16 | | 7/16 | 7/16 | 3/8 | 3/8 |
| 11/16 | B-622 | .11 | B-1222 | .11 | BD-1222 | .22 | 3/8 | | | | |
| 3/4 | B-624 | .13 | B-1224 | .13 | BD-1224 | .22 | | 1/2 | 1/2 | 7/16 | |
| 13/16 | | | B-1226 | .15 | BD-1226 | .24 | | 9/16 | | 1/2 | |
| 7/8 | | | B-1228 | .17 | | | 1/2 | 5/8 | 9/16 | 9/16 | |

‡ 2 to 2-5/8" long has Cross Hole for 9/32" Bar.

1-52

♦ REGISTERED TRADE MARK

WILLIAMS' "SUPERSOCKET" WRENCHES
Selected Alloy Steel

BANTAM PATTERN

3/8" Square Drive

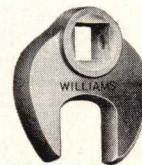
SOCKETS



**Universal
12-Point
Opening**



**Extra Deep
8-Point
Opening**



Crowfoot

All Universal Sockets have an operating range of approximately 130° and are fitted with spring tension to maintain the operating angle desired. Crowfoot attachments are designed for use in close quarters and fit all Bantam attachments.

| Size Open- ing | 12-Point Universal Sockets | | Crowfoot Wrench Attachments | | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex Hd. Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. | | 8-POINT OPENINGS | | |
|----------------------|----------------------------------|-------------|-----------------------------------|-------------|---|--|---|---------------|----------------|-----------------------------------|-------------|----------------------|
| | | | | | | | | REGLR. Nut | Mach. Screw | *Extra Deep 8-Point Sockets | | Size Open- ing |
| | No. | Wgt. Ea. | No. | Wgt. Ea. | | | | | | No. | Wgt. Ea. | |
| 3/8 | BU-1212 | .09 | BC-1700 | .08 | | 3/16 | | | 10 | | | 3/8 |
| 7/16 | BU-1214 | .09 | BC-1701 | .08 | | 1/4 | 1/4 | 1/4 | 12-1/4 | BD-814 | .09 | 7/16 |
| 1/2 | BU-1216 | .09 | BC-1001 | .11 | 1/4 | 5/16 | 5/16 | | | BD-816 | .13 | 1/2 |
| 9/16 | BU-1218 | .1 | BC-1702 | .11 | | 3/8 | 3/8 | 5/16 | 5/16 | BD-818 | .14 | 9/16 |
| 5/8 | BU-1220 | .11 | BC-1703 | .18 | | 7/16 | 7/16 | 3/8 | 3/8 | BD-820 | .18 | 5/8 |
| 11/16 | BU-1222 | .11 | BC-1003 | .18 | 3/8 | | | | | | | 11/16 |
| 3/4 | BU-1224 | .13 | | | | 1/2 | 1/2 | 7/16 | | | | 3/4 |

♦ REGISTERED TRADE MARK

* 1-1/2" long

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS
Selected Alloy Steel
 BANTAM PATTERN
 3/8" SQUARE DRIVE



SET No. B-1

Complete in Metal Case

11 Pieces

10 Sockets and 1 Attachment

Total Weight, 1-3/4 lbs.

2 Color Steel Case Only

1-3/4 x 2-1/4 x 7-3/4"

Weight, 3/4 lb.

CONTENTS

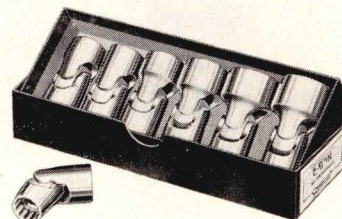
- 10 Bantam "Supersockets"—1 6-point opening—1/4"; 9 12-point openings—5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16 and 3/4".
 1 B-51—Reversible Ratchet, 6-1/2" long.

SET No. B-2

Complete in Cardboard Box

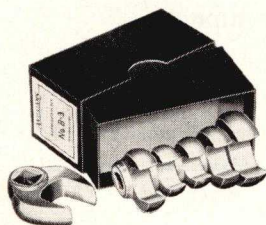
7 Pieces

Weight, 3/4 lb.



CONTENTS

- 7 Bantam Universal "Supersockets"—with 12-point openings—3/8, 7/16, 1/2, 9/16, 5/8, 11/16 and 3/4".



SET No. B-3

Complete in Cardboard Box

6 Pieces

Weight, 1/2 lb.

CONTENTS

- 6 Bantam Crowfoot Attachments with openings—3/8, 7/16, 1/2, 9/16, 5/8 and 11/16".

SET No. B-7

Complete in Cardboard Box

10 Pieces

Weight, 3/4 lb.



CONTENTS

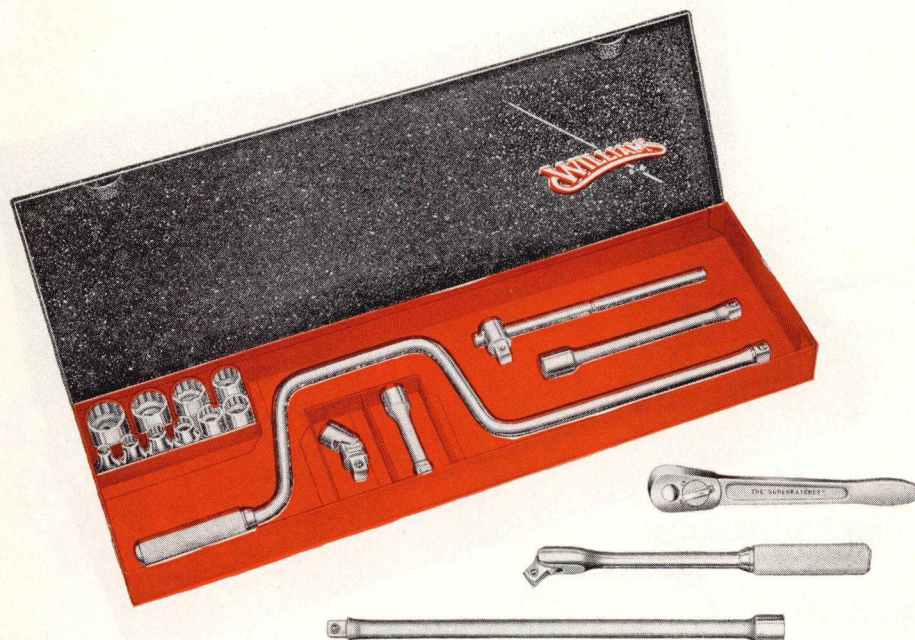
- 10 Bantam "Supersockets" with 6-point openings—1/4, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16 and 3/4".

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel

BANTAM PATTERN

3/8" SQUARE DRIVE



SET No. B-4

Complete in Metal Case

18 Pieces

10 Sockets and 8 Attachments

Total Weight, 6-3/8 lbs.

2 Color Steel Case Only

1-1/4 x 5-1/4 x 17-3/4"

Weight, 2-5/8 lbs.

CONTENTS

10 Bantam "Supersockets"—1 6-point opening — 1/4"; 9 12-point openings — 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16 and 3/4".

1 B-15—Speeder—16-1/2" long, revolving grip.

1 B-20A—Sliding T Handle, 6-1/2" long.

1 B-40—Flex Handle, 8-1/2" long.

1 B-51—Reversible Ratchet, 6-1/2" long.

1 B-108—Extension Bar, 3" long.

1 B-110—Extension Bar, 5-1/2" long.

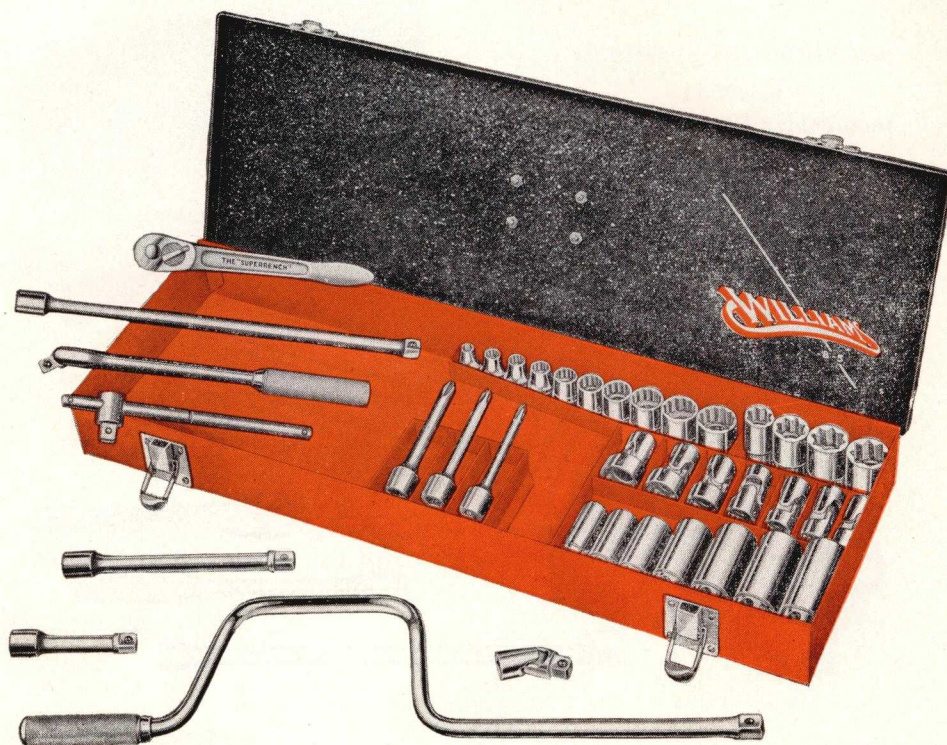
1 B-115—Extension Bar, 10-1/2" long.

1 B-140—Universal Joint, range approx. 140°.

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS
Selected Alloy Steel

BANTAM PATTERN

3/8" SQUARE DRIVE



SET No. B-5

Complete in Metal Case

39 Pieces

28 Sockets and 11 Attachments

Total Weight, 11-3/8 lbs.

2 Color Steel Case Only

2 x 6-1/2 x 19-1/4"

Weight, 5 lbs.

CONTENTS

- | | |
|--|--|
| <p>10 Bantam "Supersockets"—1 6-point opening—1/4"; 9 12-point openings—5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16 and 3/4".</p> <p>7 Bantam Universal "Supersockets"—12-point openings—3/8, 7/16, 1/2, 9/16, 5/8, 11/16 and 3/4".</p> <p>4 Bantam Extra Deep "Supersockets" with 8-point openings—7/16, 1/2, 9/16 and 5/8".</p> <p>7 Bantam Extra Deep "Supersockets" with 12-point openings—7/16, 1/2, 9/16, 5/8, 11/16, 3/4 and 13/16".</p> <p>1 B-15 — Speeder, 16-1/2" long with revolving grip.</p> | <p>1 B-20A—Sliding T Handle, 6-1/2" long.</p> <p>1 B-40—Flex Handle, 8-1/2" long.</p> <p>1 B-51—Reversible Ratchet, 6-1/2" long.</p> <p>1 B-108—Extension Bar, 3" long.</p> <p>1 B-110—Extension Bar, 5-1/2" long.</p> <p>1 B-115—Extension Bar, 10-1/2" long.</p> <p>1 B-140—Universal Joint, range approx. 140°.</p> <p>1 BP-2—Phillips Screw Driver Attachment.</p> <p>1 BP-3—Phillips Screw Driver Attachment.</p> <p>1 BP-4—Phillips Screw Driver Attachment.</p> |
|--|--|

♦ REGISTERED TRADE MARK

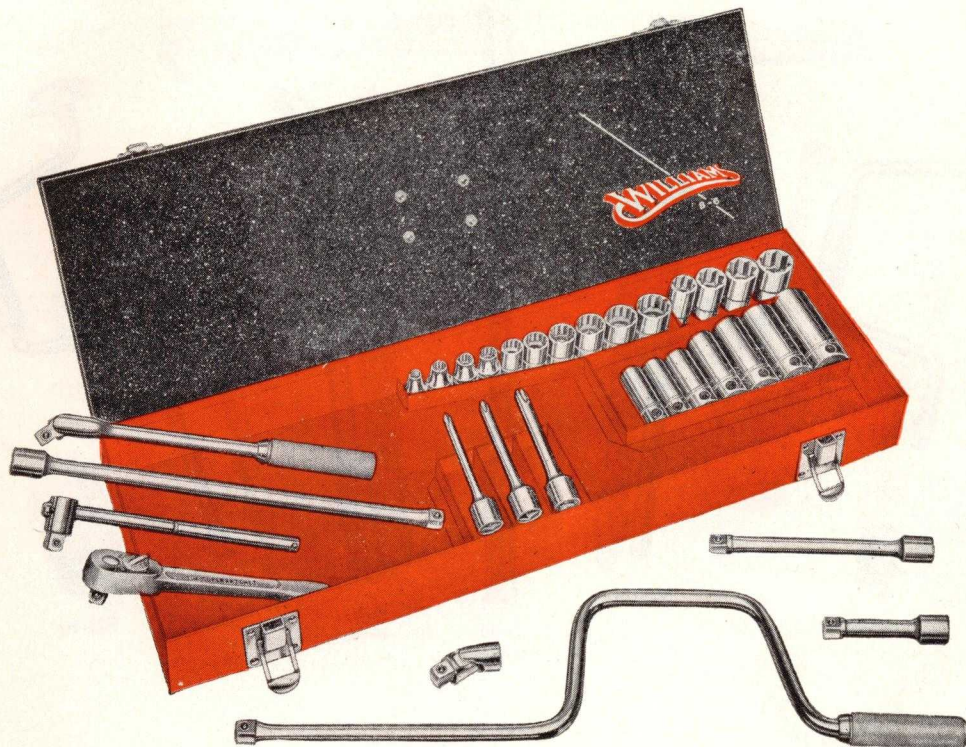
1-52

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel

BANTAM PATTERN

3/8" SQUARE DRIVE



SET No. B-6

Complete in Metal Case

32 Pieces

21 Sockets and 11 Attachments

Total Weight, 10-1/2 lbs.

2 Color Steel Case Only

2 x 6-1/2 x 19-1/4"

Weight, 4-7/8 lbs.

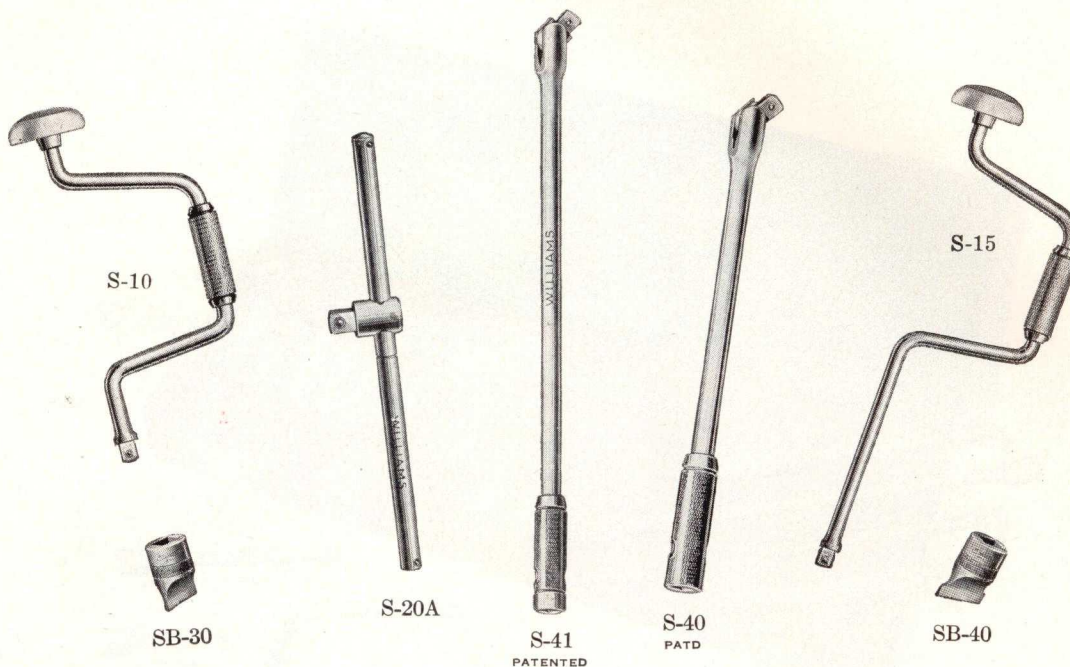
CONTENTS

- | | |
|---|---|
| <p>10 Bantam "Supersockets"—1 6-point opening—1/4"; 9 12-point openings—5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16 and 3/4".</p> <p>4 Bantam Extra Deep "Supersockets" with 8-point openings—7/16, 1/2, 9/16 and 5/8".</p> <p>7 Bantam Extra Deep "Supersockets" with 12-point openings—7/16, 1/2, 9/16, 5/8, 11/16, 3/4 and 13/16".</p> <p>1 B-15—Speeder, 16-1/2" long with revolving grip.</p> <p>1 B-20A—Sliding T Handle, 6-1/2" long.</p> | <p>1 B-40—Flex Handle, 6-1/2" long.</p> <p>1 B-51—Reversible Ratchet, 6-1/2" long.</p> <p>1 B-108—Extension Bar, 3" long.</p> <p>1 B-110—Extension Bar, 5-1/2" long.</p> <p>1 B-115—Extension Bar, 10-1/2" long.</p> <p>1 B-140—Universal Joint, range approx. 140°.</p> <p>1 BP-2—Phillips Screw Driver Attachment.</p> <p>1 BP-3—Phillips Screw Driver Attachment.</p> <p>1 BP-4—Phillips Screw Driver Attachment.</p> |
|---|---|

♦ **REGISTERED TRADE MARK**

WILLIAMS' ♦ "SUPERSOCKET" WRENCHES
Selected Alloy Steel

STANDARD HANDLES and PARTS—1/2" SQUARE DRIVE

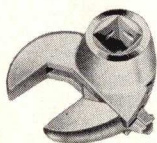


| No. | PIECE | Weight Each, Lbs. | No. |
|-------|--|-------------------|-------|
| S-10 | Speeder—12" long, with knurled revolving grips..... | 1.8 | S-10 |
| S-15 | Speeder—17-1/2" long, with knurled revolving grips..... | 2. | S-15 |
| S-20A | Sliding T Handle—11" long..... | .96 | S-20A |
| SB-30 | Screw Driver Socket Attachment—7/64 x 15/16" blade..... | .14 | SB-30 |
| SB-40 | Screw Driver Socket Attachment—3/32 x 1-1/4" blade..... | .16 | SB-40 |
| S-40 | Flex Handle—12" long; flexible head. Knurled grip with 1/2" square drive hole in end—may be used as Extension; 7/16" round cross hole for Bar..... | 1.4 | S-40 |
| S-41 | Flex Handle—17-1/4"—flexible head. Knurled grip—1/2" square drive hole in end for use as Extension; 7/16" round cross hole for Bar..... | 1.9 | S-41 |
| S-42B | Sliding Bar, 7/16" x 9", for Flex Handle S-40 and S-41..... | .35 | S-42B |

ADJUSTABLE CROWFOOT ATTACHMENT

PATENT APPLIED FOR

No. SC-8 — Capacity, 15/16"

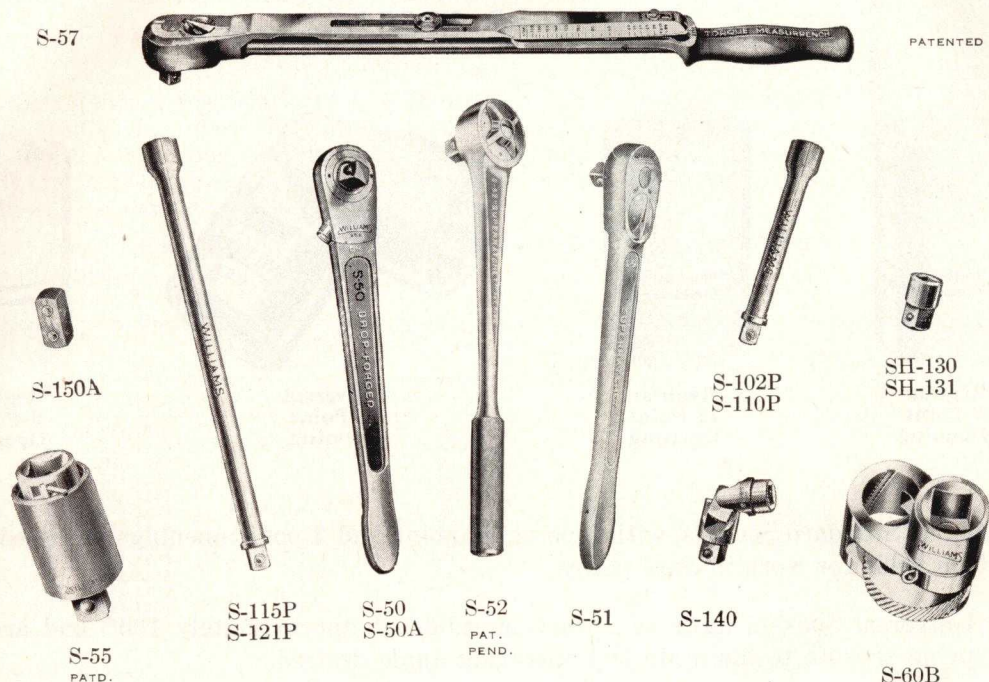


May be used with any combination of 1/2" square drive Handles or Parts. This ingenious attachment combines the flexibility of the detachable socket system with all the advantages of the adjustable wrench.

Weight, .37 Lb.



WILLIAMS' ♦ "SUPERSOCKET" WRENCHES
Selected Alloy Steel
STANDARD HANDLES and PARTS—1/2" SQUARE DRIVE



| No. | PIECE | Weight Each, Lbs. | No. |
|--------|--|-------------------|--------|
| S-50 | Ratchet—10" long, complete with Locked-in Plug Connector..... | 1.3 | S-50 |
| S-50A | Ratchet—10" long, without Plug Connector..... | 1.3 | S-50A |
| S-51 | Reversible Ratchet—10-1/2" long. 24 teeth in Ratchet-gear instead of usual 16. Turning shift-lever reverses action instantly..... | 1.4 | S-51 |
| S-52 | Reversible Ratchet—11-1/4" long. Concentric type mechanism of 82 tooth action permits rotation of nuts in close quarters. Unique design of shifter provides instantaneous reverse action and one-hand operation..... | 1.2 | S-52 |
| S-55 | Reversible Ratchet Adapter—2-9/16" long; outside diameter 1-1/4". Shift-lever reverses action instantly. Male and female connections 1/2" square drive. Makes ratchet action possible with Speeders, T Handles, Flex Handles, etc., in close quarters..... | .5 | S-55 |
| S-57 | Torque "Measurrench"—19-1/2" long; indicates R.H. Torque. Has torque-indicating signal. Action reverses instantly for general use. See page 128..... | 3.7 | S-57 |
| S-60B | Stud Remover—1/2" square drive. Stud capacity 1/4" to 3/4"..... | .52 | S-60B |
| S-102P | Extension Bar—2-1/2" long..... | .27 | S-102P |
| S-110P | Extension Bar—5-1/2" long..... | .53 | S-110P |
| S-115P | Extension Bar—10-1/2" long..... | 1. | S-115P |
| S-121P | Extension Bar—20" long..... | 2.1 | S-121P |
| SH-130 | Adapter—1/2" square female and 3/4" square male..... | .31 | SH-130 |
| SH-131 | Adapter—1/2" square male and 3/4" square female..... | .44 | SH-131 |
| S-140 | Universal Joint—Fitted with spring tension to maintain operating angle desired. Range approx. 140°..... | .34 | S-140 |
| S-150A | Ratchet Plug-Connector for S-50 Ratchet..... | .08 | S-150A |

WILLIAMS' "SUPERSOCKET" WRENCHES
Selected Alloy Steel

STANDARD PATTERN — 1/2" SQUARE DRIVE

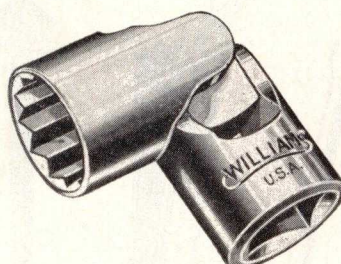
REGULAR SOCKETS



Regular
6-Point
Opening



Regular
12-Point
Opening



Universal
12-Point
Opening



Regular
8-Point
Opening

Williams' Standard Sockets, with 6-point, 12-point and 8-point openings as listed below, have thin walls for work in close places.

All Universal Sockets have an operating range of approximately 130° and are fitted with spring tension to maintain the operating angle desired.

Accurately made from Selected Alloy Steel, heat-treated and chrome-plated. All sockets packed 6 in a box.

Whitworth Standard and Metric sizes listed on page 216.

| Nominal Open- ing | 6 AND 12-POINT OPENINGS FOR HEX NUTS | | | | | | | | 8-POINT OPENINGS | | | | |
|-------------------------|--|-------------|---|-------------|----------------------------------|-------------|---|--|---|---|----------|----------------------|------------------------------|
| | Straight Wall 6-Point Sockets | | Straight Wall 12-Point Sockets | | Universal 12-Point Sockets | | For Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | For Amer. Std. Hex Head Cap Screw Diam. Screw | For Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | For Amer. Std. REGULAR Nut; Size Bolt | No. | Wgt. Each Lbs. | Nom- inal Open- ing |
| | No. | Wgt. Ea. | No. | Wgt. Ea. | No. | Wgt. Ea. | | | | | | | |
| 3/8 | ST-612 | .10 | ST-1212 | .10 | | | | 3/16 | | | ST-810 | .14 | 5/16 |
| 7/16 | ST-614 | .11 | ST-1214 | .11 | | | | 1/4 | | | ST-812 | .14 | 3/8 |
| 1/2 | ST-616 | .12 | ST-1216 | .12 | SU-1216 | .24 | 1/4 | 5/16 | 1/4 | 5/16 | ST-814 | .14 | 7/16 |
| 9/16 | ST-618 | .12 | ST-1218 | .12 | SU-1218 | .25 | | 3/8 | 3/8 | 5/16 | | | |
| *9/16 | SF-618 | .13 | SF-1218 | .13 | | | | | | | ST-816 | .17 | 1/2 |
| 19/32 | ST-619 | .13 | ST-1219 | .13 | | | 5/16 | | | | | | |
| 5/8 | ST-620 | .14 | ST-1220 | .14 | SU-1220 | .26 | | 7/16 | 7/16 | 3/8 | ST-818 | .23 | 9/16 |
| 21/32 | ST-621 | .14 | ST-1221 | .14 | | | | | | | | | |
| 11/16 | ST-622 | .16 | ST-1222 | .16 | SU-1222 | .27 | 3/8 | | | | †ST-0818 | .14 | 9/16 |
| 3/4 | ST-624 | .19 | ST-1224 | .19 | SU-1224 | .29 | | 1/2 | 1/2 | 7/16 | | | |
| 25/32 | ST-625 | .21 | ST-1225 | .21 | | | 7/16 | | | | ST-820 | .30 | 5/8 |
| 13/16 | ST-626 | .24 | ST-1226 | .24 | | | | 9/16 | 9/16 | 1/2 | ST-822 | .32 | 11/16 |
| 7/8 | ST-628 | .28 | ST-1228 | .28 | | | 1/2 | 5/8 | 9/16 | 9/16 | | | |
| 15/16 | ST-630 | .32 | ST-1230 | .32 | | | 9/16 | | 5/8 | | ST-824 | .38 | 3/4 |
| 31/32 | | | ST-1231 | .34 | | | | | | | | | |
| 1 | ST-632 | .38 | ST-1232 | .38 | | | | 3/4 | | 5/8 | ST-828 | .53 | 7/8 |
| 1 1/16 | | | ST-1234 | .39 | | | 5/8 | | 3/4 | | | | |
| 1 1/8 | | | ST-1236 | .43 | | | | 7/8 | | 3/4 | ST-832 | .65 | 1 |
| 1 3/16 | | | ST-1238 | .51 | | | | | | | | | |
| 1 1/4 | | | ST-1240 | .53 | | | 3/4 | | 7/8 | | | | |

* All Ford 6, Ford-Mercury V-8, 85 HP, 90 HP and 100 HP Connecting Rods. Use with Torque wrench required on models having "Marsden" self-locking nuts. Not guaranteed because of extra thin walls.

† For all Ford V-8 85 HP Main Bearing bolt heads.

♦ REGISTERED TRADE MARK

WILLIAMS' "SUPERSOCKET" WRENCHES

Selected Alloy Steel

STANDARD PATTERN - 1/2" SQUARE DRIVE

EXTRA DEEP 12-POINT SOCKETS

For Spark Plugs and "Buried" Nuts

Especially designed for Spark Plug and other service, such as U Bolts and Brake-Rod-Ends, where the nuts lie some distance from the outer end of the threaded stem. Long, slim sockets with thin walls for use in cramped places. Their 12-point openings permit operation in close quarters where the handle can be swung only 30°.

Carefully made from Selected Alloy Steel, heat-treated and chrome-plated. Packed 3 in a box.



**Cross Hole
For Bar**

| 12-Point Opening | EXTRA DEEP Sockets | | | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. Hex Head Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. REGULAR Nut; Size Bolt |
|---------------------|-----------------------|--------|----------|---|---|---|--|
| | No. | Length | Wgt. Ea. | | | | |
| 1/2 | SD-1216 | 3-1/4 | .26 | 1/4 | 5/16 | 5/16 | 5/16 |
| * 9/16 | SD-1218 | 3-1/4 | .26 | 3/8 | 3/8 | 3/8 | 3/8 |
| * 5/8 | SD-1220 | 3-1/4 | .26 | 7/16 | 7/16 | 7/16 | 7/16 |
| * 11/16 | SD-1222 | 3-1/4 | .26 | 3/8 | 1/2 | 1/2 | 7/16 |
| 3/4 | SD-1224 | 3-1/4 | .37 | 7/16 | 9/16 | 9/16 | 1/2 |
| 25/32 | SD-1225 | 3-1/4 | .37 | 1/2 | 5/8 | 5/8 | 9/16 |
| * 13/16 | SD-1226 | 3-1/4 | .37 | 9/16 | 3/4 | 3/4 | 5/8 |
| 7/8 | SD-1228 | 3-1/4 | .45 | 5/8 | 7/8 | 7/8 | 3/4 |
| † 7/8 | SD-1228T | 3-1/4 | .29 | | | | |
| * 15/16 | SD-1230 | 3-1/4 | .51 | | | | |
| * 1 | SD-1232 | 3-1/4 | .52 | | | | |
| 1-1/16 | SD-1234 | 3-1/4 | .63 | | | | |
| * 1-1/8 | SD-1236 | 3-1/4 | .74 | | | | |

* Popular Spark Plug Sizes.

† Not guaranteed because of extra thin walls.

SD-1220 services AC No. 104, Champion Nos. Y-4A and Y-5, 10mm. Plugs.

SD-1222 services AC No. 103-S, AC No. M-8, Champion No. Y-4 and Auto-Lite No. P-4, 10mm. Spark Plugs.

SD-1226 services 14mm. Spark Plugs.

SD-1228T services 18mm. Spark Plugs.

SD-1230 services many buses and trucks.

SD-1232 services 18mm. Spark Plugs on cars; also many buses and trucks.

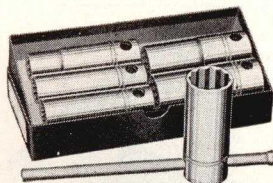
SD-1236 services many buses and trucks.

WILLIAMS' "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel

STANDARD PATTERN — 1/2" SQUARE DRIVE

SPARK PLUG SOCKET SETS



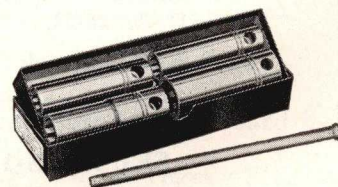
SET No. S-8

Complete in Cardboard Box

Weight, 2-3/8 lbs.

CONTENTS

- 6 Standard Extra Deep "Supersockets" with 12-point openings—9/16, 5/8, 11/16, 13/16, 7/8 and 1".
- 1 Sliding Bar—7" long.



SET No. S-9

Complete in Cardboard Box

Weight, 1-5/8 lbs.

CONTENTS

- 4 Standard Extra Deep "Supersockets" with 12-point openings—5/8, 11/16, 13/16 and 1".
- 1 Sliding Bar—7" long.

For complete list of Drivers for use with these Socket Sets, see pages 98 and 99.

♦ REGISTERED TRADE MARK

WILLIAMS' "SUPERSOCKET" WRENCH SETS
Selected Alloy Steel

STANDARD PATTERN

1/2" SQUARE DRIVE

SET No. S-1

Complete in Metal Case

12 Pieces

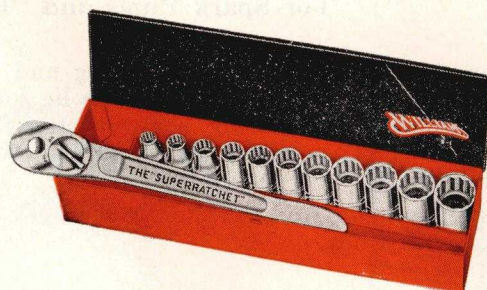
11 Sockets and 1 Attachment

Total Weight, 4-3/4 lbs.

2 Color Steel Case Only

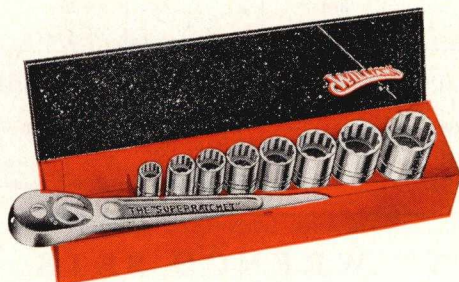
2-1/8 x 3 x 12-1/2"

Weight, 1-5/8 lbs.



CONTENTS

- 11 Standard "Supersockets" with 12-point openings—
3/8, 7/16, 1/2, 9/16, 19/32, 5/8, 11/16, 3/4,
25/32, 7/8 and 1".
- 1 S-51 Reversible Ratchet, 10-1/2" long.



SET No. S-2

Complete in Metal Case

9 Pieces

8 Sockets and 1 Attachment

Total Weight, 5-1/8 lbs.

2 Color Steel Case Only

2-1/8 x 3 x 12-1/2"

Weight, 1-5/8 lbs.

CONTENTS

- 8 Standard "Supersockets" with 12-point openings—1/2, 19/32,
11/16, 25/32, 7/8, 31/32, 1-1/16 and 1-1/4".
- 1 S-51—Reversible Ratchet, 10-1/2" long.

SET No. S-11

Complete in Cardboard Box

5 Pieces

Weight, 1-1/4 lbs.



CONTENTS

- 5 Standard Universal "Supersockets" with 12-point
openings—1/2, 9/16, 5/8, 11/16 and 3/4".

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS
Selected Alloy Steel

STANDARD PATTERN

1/2" SQUARE DRIVE



SET No. S-3

Complete in Metal Case

10 Pieces

9 Sockets and 1 Attachment

Total Weight, 5-1/8 lbs.

2 Color Steel Case Only

2-1/8 x 3 x 12-1/2"

Weight, 1-5/8 lbs.

CONTENTS

9 Standard "Supersockets" with 12-point openings — 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 15/16, 1-1/16 and 1-1/4".

1 S-51 — Reversible Ratchet, 10-1/2" long.

SET No. S-4

Complete in Metal Case

20 Pieces

19 Sockets and 1 Attachment

Total Weight, 8-1/8 lbs.

2 Color Steel Case Only

2-1/8 x 3-3/4 x 12"

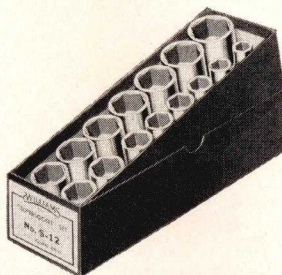
Weight, 1-7/8 lbs.



CONTENTS

19 Standard "Supersockets" with 12-point openings — 3/8, 7/16, 1/2, 9/16, 19/32, 5/8, 21/32, 11/16, 3/4, 25/32, 13/16, 7/8, 15/16, 31/32, 1, 1-1/16, 1-1/8, 1-3/16 and 1-1/4".

1 S-51 — Reversible Ratchet, 10-1/2" long.



SET No. S-12

Complete in Cardboard Box

15 Pieces

Weight, 2-3/4 lbs.

CONTENTS

15 Standard "Supersockets" with 6-point openings — 3/8, 7/16, 1/2, 9/16, *9/16 Ford Special, 19/32, 5/8, 21/32, 11/16, 3/4, 25/32, 13/16, 7/8, 15/16 and 1".

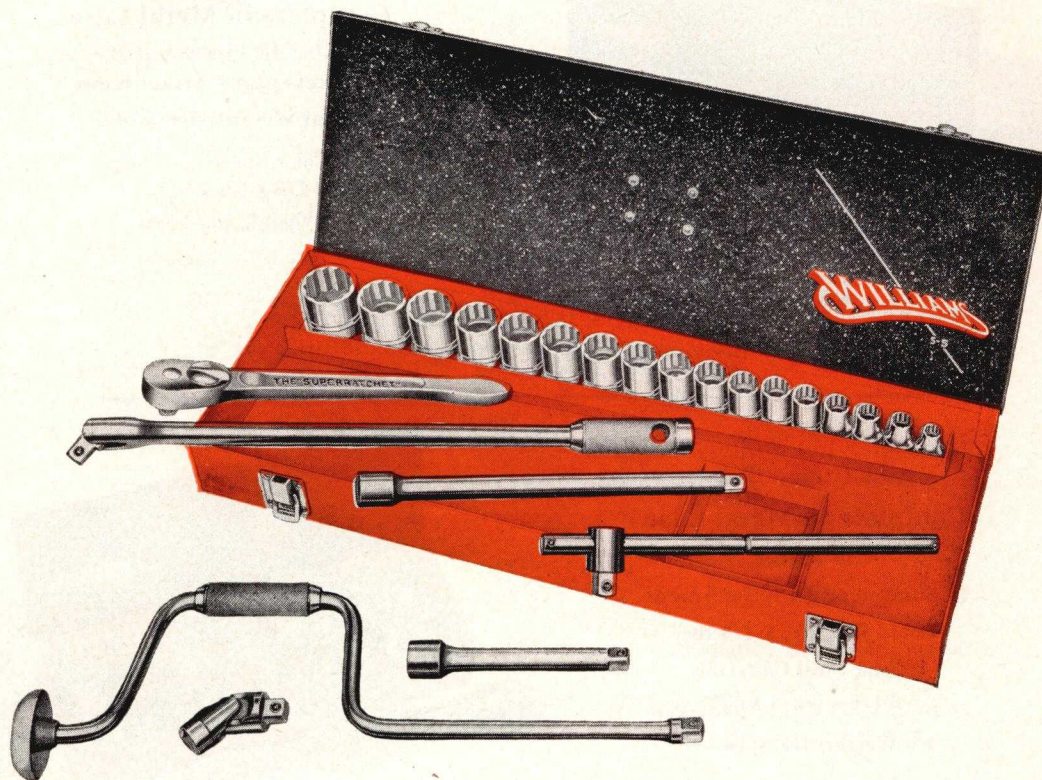
* All Ford 6, Ford-Mercury V-8, 85 HP, 90 HP and 100 HP Connecting Rods. Use with Torque wrench required on models having "Marsden" self-locking nuts. Not guaranteed because of extra thin walls.

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel

STANDARD PATTERN

1/2" SQUARE DRIVE



SET No. S-5

Complete in Metal Case

24 Pieces

17 Sockets and 7 Attachments

Total Weight, 18 lbs.

2 Color Steel Case Only

2-1/4 x 7-1/2 x 20-3/4"

Weight, 6 lbs.

CONTENTS

17 Standard "Supersockets"—12-point openings
—3/8, 7/16, 1/2, 9/16, 19/32, 5/8, 11/16, 3/4,
25/32, 13/16, 7/8, 15/16, 31/32, 1, 1-1/16,
1-1/8 and 1-1/4".

1 S-15—Speeder, 17-1/2" long, revolving grips.

1 S-20A—Sliding T Handle, 11" long.

1 S-41—Flex Handle, 17-1/4" long.

1 S-51—Reversible Ratchet, 10-1/2" long.

1 S-110P—Extension Bar, 5-1/2" long.

1 S-115P—Extension Bar, 10-1/2" long.

1 S-140—Universal Joint, range approx. 140°.

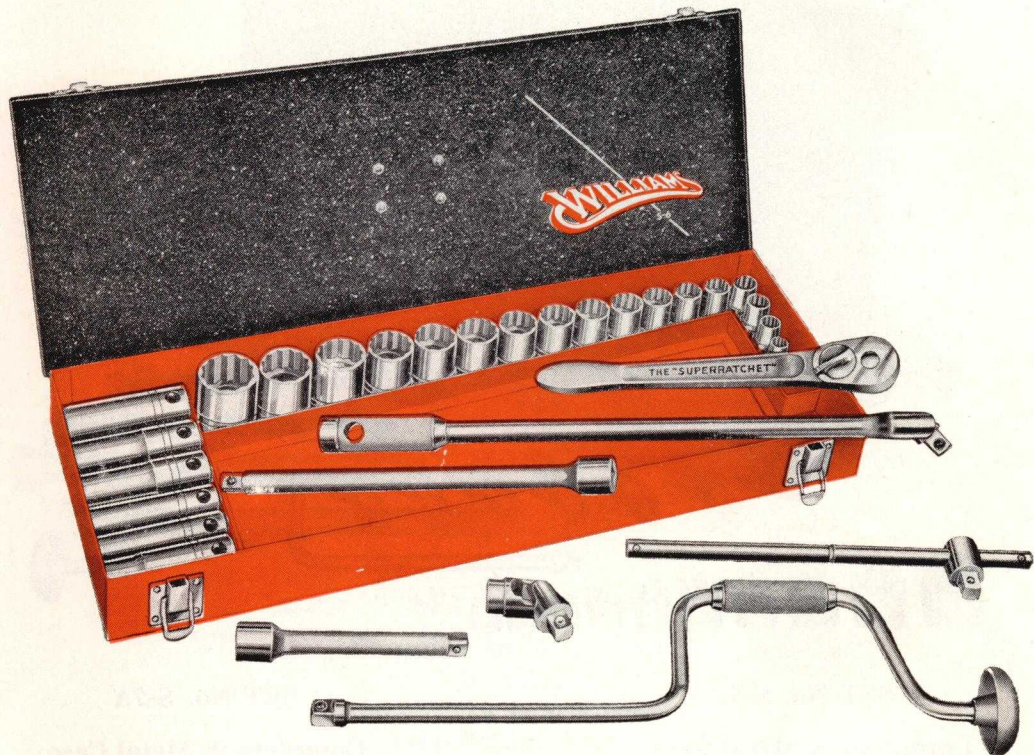
♦ REGISTERED TRADE MARK

1-52

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS
Selected Alloy Steel

STANDARD PATTERN

1/2" SQUARE DRIVE



SET No. S-6

Complete in Metal Case

30 Pieces

23 Sockets and 7 Attachments

Total Weight, 20-1/4 lbs.

2 Color Steel Case Only

2-1/4 x 7-1/2 x 20-3/4"

Weight, 6 lbs.

CONTENTS

- | | |
|--|--|
| 17 Standard "Supersockets"—12-point openings—3/8, 7/16, 1/2, 9/16, 19/32, 5/8, 11/16, 3/4, 25/32, 13/16, 7/8, 15/16, 31/32, 1, 1-1/16, 1-1/8 and 1-1/4". | 1 S-20A—Sliding T Handle, 11" long. |
| 6 Standard Extra Deep "Supersockets"—12-point openings—9/16, 5/8, 11/16, 13/16, 7/8 and 1". | 1 S-41—Flex Handle, 17-1/4" long. |
| 1 S-15—Speeder, 17-1/2" long, revolving grips. | 1 S-51—Reversible Ratchet, 10-1/2" long. |
| | 1 S-110P—Extension Bar, 5-1/2" long. |
| | 1 S-115P—Extension Bar, 10-1/2" long. |
| | 1 S-140—Universal Joint, range approx. 140°. |

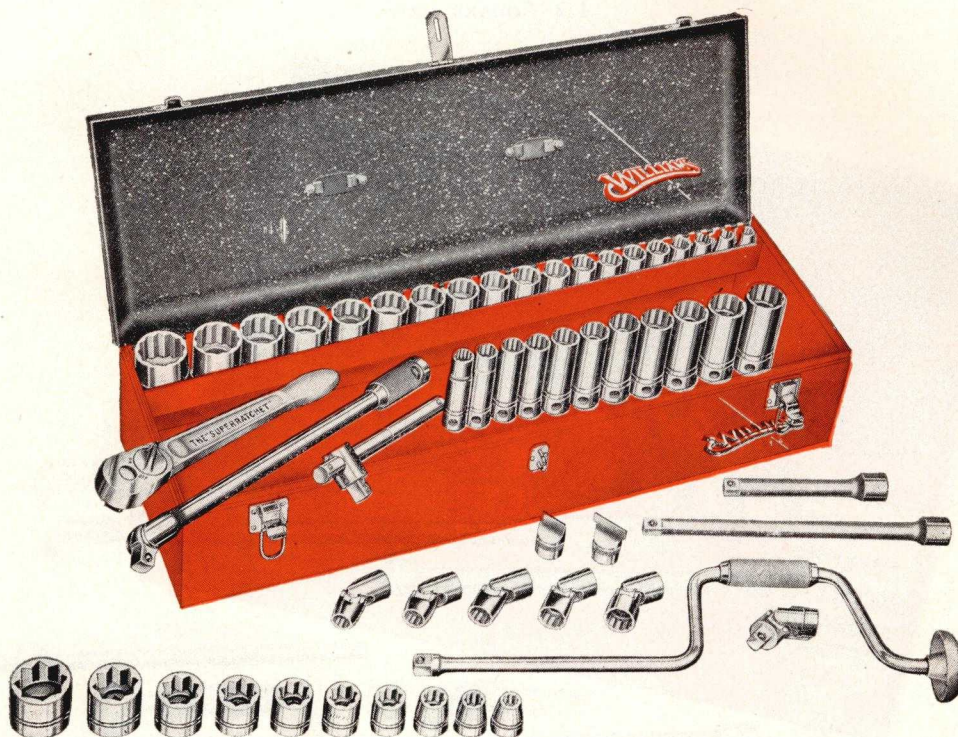
♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel

STANDARD PATTERN

1/2" SQUARE DRIVE



SET No. S-7

Complete in Metal Case

44 Pieces

35 Sockets and 9 Attachments

Total Weight, 27 lbs.

2 Color Steel Case Only

5-3/8 x 7-1/2 x 23-1/4"

Weight, 8-5/8 lbs.

SET No. S-7A

Complete in Metal Case

54 Pieces

45 Sockets and 9 Attachments

Total Weight, 30 lbs.

2 Color Steel Case Only

5-3/8 x 7-1/2 x 23-1/4"

Weight, 8-7/8 lbs.

CONTENTS

- 19 Standard "Supersockets" with 12-point openings—3/8, 7/16, 1/2, 9/16, 19/32, 5/8, 21/32, 11/16, 3/4, 25/32, 13/16, 7/8, 15/16, 31/32, 1, 1-1/16, 1-1/8, 1-3/16 and 1-1/4".
- *10 Standard "Supersockets" 8-point openings, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8 and 1".
- 5 Standard Universal "Supersockets" with 12-point openings—1/2, 9/16, 5/8, 11/16 and 3/4".
- 11 Standard Extra Deep "Supersockets" with 12-point openings—1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16 and 1-1/8".
- 1 S-15—Speeder, 17-1/2" long, revolving grips.
- 1 S-20A—Sliding T Handle, 11" long.
- 1 S-41—Flex Handle, 17-1/4" long.
- 1 S-51—Reversible Ratchet, 10-1/2" long.
- 1 S-110P—Extension Bar, 5-1/2" long.
- 1 S-115P—Extension Bar, 10-1/2" long.
- 1 S-140—Universal Joint, range approx. 140°.
- 1 SB-30—Drag Link Socket Bit, 15/16" blade.
- 1 SB-40—Drag Link Socket Bit, 1-1/4" blade.

* Not included in Set No. S-7.

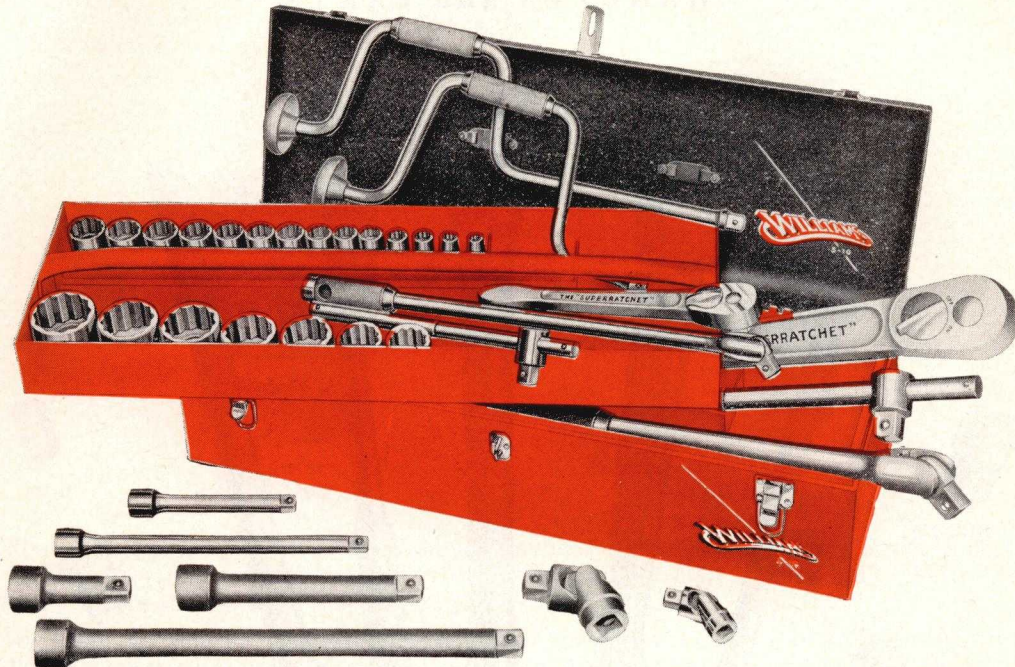
♦ REGISTERED TRADE MARK

WILLIAMS' "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel

STANDARD AND HEAVY DUTY PATTERNS

1/2" AND 3/4" SQUARE DRIVE



SET No. S-10

Complete in Metal Case

36 Pieces

21 Sockets and 15 Attachments

Total Weight, 50 lbs.

2 Color Steel Case Only

6-3/4 x 7-1/2 x 23-1/4"

Weight, 12-3/8 lbs.

CONTENTS

- | | |
|---|--|
| 14 Standard "Supersockets" with 12-point openings—3/8, 7/16, 1/2, 9/16, 19/32, 5/8, 11/16, 3/4, 25/32, 13/16, 7/8, 15/16, 31/32 and 1". | 1 S-110P—Extension Bar, 5-1/2" long. |
| 7 Heavy Duty "Supersockets"—12-pt. openings—1-1/16, 1-1/8, 1-1/4, 1-5/16, 1-7/16, 1-1/2 and 1-5/8". | 1 S-115P—Extension Bar, 10-1/2" long. |
| 1 S-10—Speeder, 12" long, revolving grips. | 1 S-140—Universal Joint, range approx. 140°. |
| 1 S-15—Speeder, 17-1/2" long, revolving grips. | 1 H-20A—Sliding T Handle, 17-1/2" long. |
| 1 S-20A—Sliding T Handle, 11" long. | 1 H-41—Flex Handle, 20" long. |
| 1 S-41—Flex Handle, 17-1/4" long. | 1 H-51—Reversible Ratchet, 19" long. |
| 1 S-51—Reversible Ratchet, 10-1/2" long. | 1 H-104—Extension Bar, 4" long. |
| | 1 H-110—Extension Bar, 8" long. |
| | 1 H-115—Extension Bar, 15-1/2" long. |
| | 1 H-140—Universal Joint, range approx. 140°. |

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERSOCKET" WRENCHES
Selected Alloy Steel

HEAVY DUTY PATTERN—3/4" SQUARE DRIVE

HANDLES and PARTS



| No. | PIECE | Weight Ea., Lbs. | No. |
|----------------|--|---------------------|----------------|
| H-20A | Sliding T Handle—17-1/2" long. | 2.7 | H-20A |
| H-41 | Flex Handle—20" long; flexible head, knurled grip and cross hole for Sliding Bar | 4.6 | H-41 |
| H-41B | Sliding Bar, 3/4" x 16" for H-41 and NX-41. | 2. | H-41B |
| H-50 | Ratchet—18-1/2" long; complete with Plug-Connector H-150. | 5.3 | H-50 |
| H-51 | Reversible Ratchet—19" long, 24 teeth in Ratchet gear instead of usual 16, Shift lever reverses action instantly. | 5.4 | H-51 |
| H-104 | Extension Bar—4" long. | .88 | H-104 |
| H-110 | Extension Bar—8" long. | 1.5 | H-110 |
| H-115 | Extension Bar—15-1/2" long. | 2.8 | H-115 |
| HNX-130 | Adapter, 3/4" square female and 1" square male—Adapts Heavy Duty Handles (3/4" square male drive) to Extra Heavy Duty Sockets (1" square female drive). | 1.7 | HNX-130 |
| NX-130 | Adapter, 3/4" square female and 1" hex male—Adapts Heavy Duty Handles (3/4" square male drive) to old style Extra Heavy Duty Sockets (1" hex female drive). | .59 | HX-130 |
| H-140 | Universal Joint—Fitted with spring tension to maintain operating angle desired—range approx. 140°. | 1.2 | H-140 |
| H-150 | Ratchet Plug-Connector. | .27 | H-150 |
| HH-150 | Plug-Adapter, 5/8" and 3/4" square male. | .2 | HH-150 |
| HNX-151 | Adapter, 3/4" square male and 1" square male—Adapts Extra Heavy Duty Sockets (1" square female drive) to Heavy Duty Handles (3/4" square female drive). | .44 | HNX-151 |

◆ REGISTERED TRADE MARK

1-52

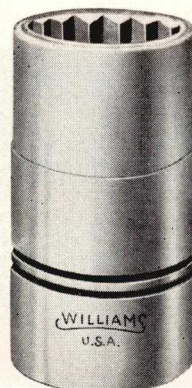
WILLIAMS' ♦ "SUPERSOCKET" WRENCHES
Selected Alloy Steel

HEAVY DUTY PATTERN — 3/4" SQUARE DRIVE

SOCKETS



Regular
12-Point Opening



Extra Deep
12-Point Opening

Williams' Heavy Duty Sockets are designed for harder service where more strength is required than on the every-day job. They provide ample strength without clumsy bulk. Will rotate nuts completely where handle can be swung only 30°.

Extra Deep Sockets are specially designed for U-bolt nuts on Buses and Trucks and other HEAVY service requiring an extra deep opening. Ample strength for the hardest jobs. Indispensable in cramped spaces.

Made from Selected Alloy Steel heat-treated, and chrome-plated. Regular sockets packed 2 in a box. Extra Deep Sockets, packed 3 in a box.

To use "Heavy Duty" Sockets (3/4" square female drive) with "Standard" Handles (1/2" square male drive), use Adapter SH-130, page 99.

| Size Opening | REGULAR | | *EXTRA DEEP | | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex. Head Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGULAR Nut |
|-----------------|---------|-------------------------|-------------|-------------------------|--|--------------------------------------|--|------------------------------|
| | No. | Weight Each, Lbs. | No. | Weight Each, Lbs. | | | | |
| 7/8 | H-1228 | .41 | ..... | ..... | 1/2 | 5/8 | 9/16 | 9/16 |
| 15/16 | H-1230 | .41 | HD-1230 | .75 | 9/16 | ..... | 5/8 | ..... |
| 31/32 | H-1231 | .43 | ..... | ..... | ..... | ..... | ..... | ..... |
| 1 | H-1232 | .50 | ..... | ..... | ..... | 3/4 | ..... | 5/8 |
| 1- 1/16 | H-1234 | .51 | HD-1234 | .9 | 5/8 | ..... | 3/4 | ..... |
| 1- 1/8 | H-1236 | .58 | ..... | ..... | ..... | 7/8 | ..... | 3/4 |
| 1- 3/16 | H-1238 | .69 | ..... | ..... | ..... | ..... | 7/8 | ..... |
| 1- 1/4 | H-1240 | .67 | HD-1240 | 1.2 | 3/4 | ..... | ..... | ..... |
| 1- 5/16 | H-1242 | .78 | ..... | ..... | ..... | 1 | ..... | 7/8 |
| 1- 3/8 | H-1244 | .78 | ..... | ..... | ..... | ..... | ..... | ..... |
| 1- 7/16 | H-1246 | .88 | HD-1246 | 1.6 | 7/8 | ..... | 1 | ..... |
| 1- 1/2 | H-1248 | 1. | ..... | ..... | ..... | 1-1/8 | ..... | 1 |
| 1- 5/8 | H-1252 | 1. | ..... | ..... | 1 | ..... | 1-1/8 | ..... |
| 1-11/16 | H-1254 | 1.3 | ..... | ..... | ..... | 1-1/4 | ..... | 1-1/8 |
| 1- 3/4 | H-1256 | 1.3 | ..... | ..... | ..... | ..... | ..... | ..... |
| 1-13/16 | H-1258 | 1.9 | ..... | ..... | 1-1/8 | ..... | 1-1/4 | ..... |
| 1- 7/8 | H-1260 | 1.9 | ..... | ..... | ..... | ..... | ..... | 1-1/4 |
| 2 | H-1264 | 2.1 | ..... | ..... | 1-1/4 | ..... | 1-3/8 | ..... |
| 2- 1/16 | H-1266 | 2.5 | ..... | ..... | ..... | ..... | ..... | 1-3/8 |
| 2- 1/8 | H-1268 | 2.6 | ..... | ..... | ..... | ..... | ..... | ..... |
| 2- 3/16 | H-1270 | 2.6 | ..... | ..... | 1-3/8 | ..... | 1-1/2 | ..... |
| 2- 1/4 | H-1272 | 2.5 | ..... | ..... | ..... | ..... | ..... | 1-1/2 |

♦ REGISTERED TRADE MARK

* 3-1/4" to 3-1/2" long.

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel
HEAVY DUTY PATTERN

3/4" SQUARE DRIVE



SET No. H-1

Complete in Metal Case

9 Pieces

8 Sockets and 1 Attachment

Total Weight, 14-7/8 lbs.

2 Color Steel Case Only

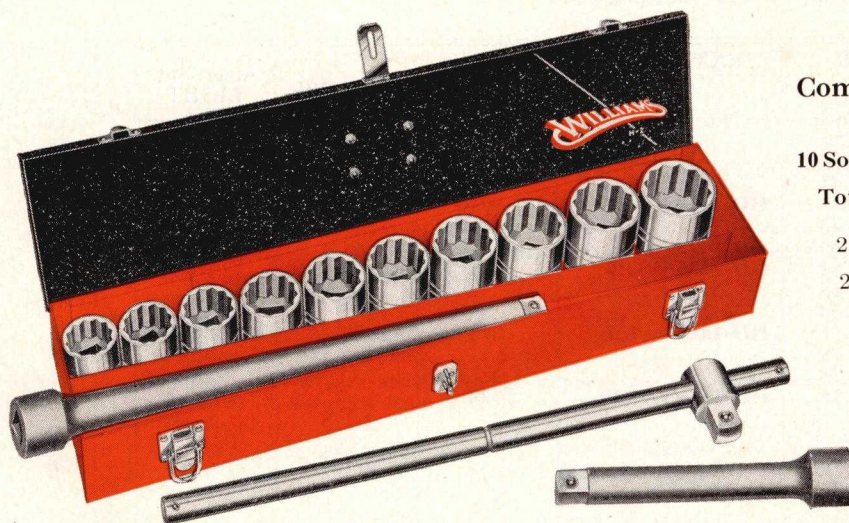
5-3/8 x 4 x 18"

Weight, 4-1/2 lbs.

CONTENTS

8 Heavy Duty "Supersockets" with 12-point openings — 7/8, 31/32, 1-1/16, 1-1/4, 1-7/16, 1-5/8, 1-13/16 and 2".

1 H-20A — Sliding T Handle — 17-1/2" long.



SET No. H-2

Complete in Metal Case

13 Pieces

10 Sockets and 3 Attachments

Total Weight, 20-3/4 lbs.

2 Color Steel Case Only

2-3/4 x 4-1/2 x 19-3/4"

Weight, 4-3/4 lbs.

CONTENTS

10 Heavy Duty "Supersockets" with 12-point openings — 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-5/8 and 1-3/4".

1 H-20A — Sliding T Handle, 17-1/2" long.

1 H-110 — Extension Bar, 8" long.

1 H-115 — Extension Bar, 15-1/2" long.

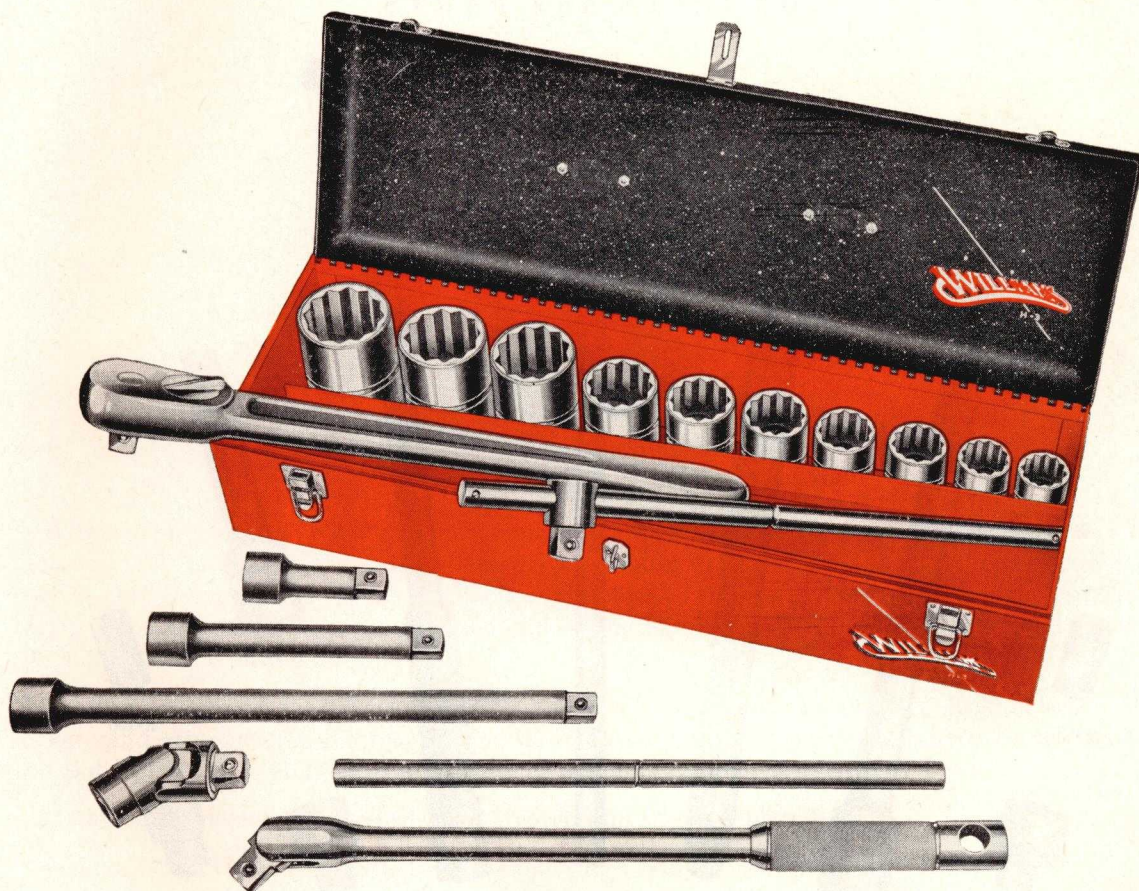
♦ REGISTERED TRADE MARK

1-52

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel
HEAVY DUTY PATTERN

3/4" SQUARE DRIVE



SET No. H-3

Complete in Metal Case

18 Pieces

10 Sockets and 8 Attachments

Total Weight, 41-1/8 lbs.

2 Color Steel Case Only

5-3/8 x 7-1/2 x 23-1/4"

Weight, 7-1/2 lbs.

CONTENTS

- | | |
|--|--|
| 10 Heavy Duty "Supersockets" with 12-point openings—1-1/16, 1-1/8, 1-1/4, 1-5/16, 1-7/16, 1-1/2, 1-5/8, 1-13/16, 1-7/8 and 2". | 1 H-51—Reversible Ratchet, 19" long. |
| 1 H-20A—Sliding T Handle, 17/12" long. | 1 H-104—Extension Bar, 4" long. |
| 1 H-41—Flex Handle, 20" long. | 1 H-110—Extension Bar, 8" long. |
| 1 H-41B—Sliding Bar for H-41. | 1 H-115—Extension Bar, 15-1/2" long. |
| | 1 H-140—Universal Joint, range approx. 140°. |

♦ REGISTERED TRADE MARK

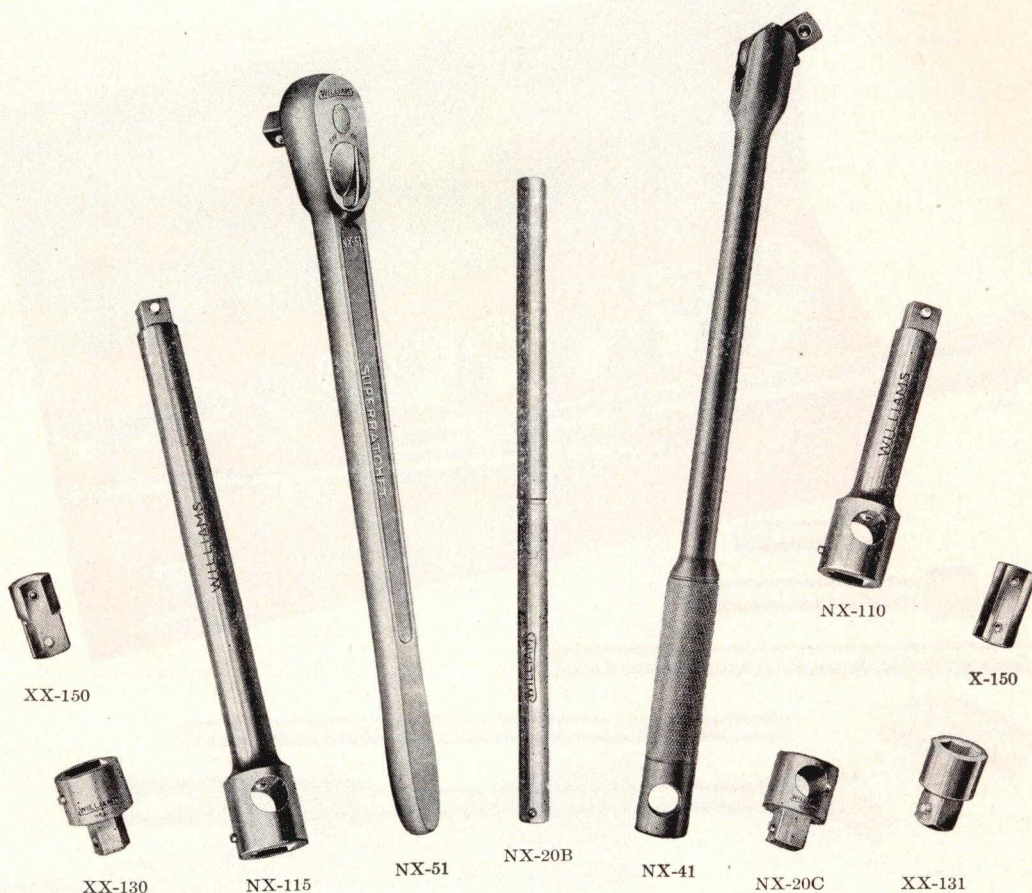
WILLIAMS' ♦ "SUPERSOCKET" WRENCHES

Selected Alloy Steel

EXTRA HEAVY DUTY PATTERN

1" SQUARE DRIVE

HANDLES and PARTS



| No. | PIECE | Weight Each, Lbs. | No. |
|--------|---|-------------------------|--------|
| NX-20B | Sliding Handle — 1" diam., 20" long. | 4.4 | NX-20B |
| NX-20C | Adapter — for Sliding Handle NX-20B. | 1.4 | NX-20C |
| NX-41 | Flex Handle 27" long; flexible head, knurled grip and cross-hole for Sliding Bar H-41B, Page 108. | 9.3 | NX-41 |
| NX-51 | Reversible Ratchet — 25" long, 24 teeth in Ratchet gear instead of usual 16. Shift lever reverses action instantly. | 11.5 | NX-51 |
| NX-110 | Extension Bar — 9" long. | 3.7 | NX-110 |
| NX-115 | Extension Bar — 18" long. | 7.1 | NX-115 |
| X-150 | Ratchet Plug-Connector — 1" hex. | .54 | X-150 |
| XX-130 | Adapter — 1" square Female and 1" hex Male. | 1.2 | XX-130 |
| XX-131 | Adapter — 1" hex Female and 1" square Male. | .93 | XX-131 |
| XX-150 | Adapter — 1" square Male and 1" hex Male. | .53 | XX-150 |

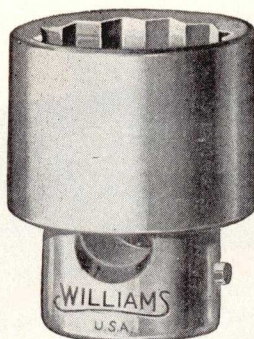
♦ REGISTERED TRADE MARK

1-52

WILLIAMS' "SUPERSOCKET" WRENCHES
Selected Alloy Steel

EXTRA HEAVY DUTY PATTERN
1" SQUARE DRIVE

SOCKETS



12-Point Opening

Williams' Extra Heavy Duty Sockets provide sturdy, rugged strength for the hardest kind of service. In addition to the 1" square drive opening in their base, they are cross-drilled to receive the Sliding Handle which is thus brought close to the work. This minimizes the tendency to tip when the socket is used near the end of the handle. Will rotate nuts completely where the handle can be swung only 30°.

Another feature is the "Lock-Socket" device which provides a positive lock between the sockets and attachments. To release the "Lock-Socket" simply press the button on the socket and pull. This device eliminates all danger of sockets becoming detached in service.

Made from Selected Alloy Steel, heat-treated and Chrome-plated.

Sockets Nos. NX-1234 to NX-1248 packed 2 in a box. All others, 1 in a box.

| Nom- inal Open- ing | No. | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Am.Std. HexHd. Cap Screw; Diam. Screw | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. Reg. Nut; Size Bolt | Wgt. Each Lbs. | Nom- inal Open- ing | No. | Amer. Std. HEAVY Nut (U.S.S.); Size Bolt | Amer. Std. LIGHT Nut (S.A.E.); Size Bolt | Amer. Std. Reg. Nut; Size Bolt | Wgt. Each Lbs. |
|------------------------------|---------|---|--|---|---|----------------------|------------------------------|----------|---|---|---|----------------------|
| 1 1/16 | NX-1234 | 5/8 | ..... | 3/4 | ..... | 1.1 | 2 1/8 | NX-1268 | ..... | ..... | ..... | 3. |
| 1 1/8 | NX-1236 | ..... | 7/8 | ..... | 3/4 | 1.2 | 2 3/16 | NX-1270 | 1-3/8 | 1-1/2 | ..... | 3. |
| 1 1/4 | NX-1240 | 3/4 | ..... | 7/8 | ..... | 1.2 | 2 1/4 | NX-1272 | ..... | ..... | 1-1/2 | 3.3 |
| 1 3/8 | NX-1244 | ..... | ..... | ..... | ..... | 1.3 | 2 3/8 | NX-1276 | 1-1/2 | ..... | ..... | 3.6 |
| 1 7/16 | NX-1246 | 7/8 | ..... | 1 | ..... | 1.3 | 2 1/2 | NX-1280 | ..... | ..... | ..... | 3.2 |
| 1 1/2 | NX-1248 | ..... | 1-1/8 | ..... | 1 | 1.4 | 2 9/16 | †NX-1282 | 1-5/8 | ..... | ..... | 6.3 |
| 1 5/8 | NX-1252 | 1 | ..... | 1-1/8 | ..... | 1.9 | 2 5/8 | †NX-1284 | ..... | ..... | 1-3/4 | 6.3 |
| 1 13/16 | NX-1258 | 1-1/8 | ..... | 1-1/4 | ..... | 2.1 | 2 3/4 | †NX-1288 | 1-3/4 | ..... | ..... | 6.7 |
| 1 7/8 | NX-1260 | ..... | ..... | ..... | 1-1/4 | 2.3 | 2 15/16 | †NX-1294 | 1-7/8 | ..... | ..... | 7.2 |
| 2 | NX-1264 | 1-1/4 | ..... | 1-3/8 | ..... | 2.4 | 3 1/8 | †NX12100 | 2 | ..... | ..... | 8.3 |

† These Sockets have short neck, no cross-hole.

★ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS
Selected Alloy Steel

EXTRA HEAVY DUTY PATTERN

1" SQUARE DRIVE



SET No. NX-1

Complete in Metal Case

18 Pieces

12 Sockets and 6 Attachments

Total Weight, 78-3/4 lbs.

2 Color Steel Case Only

4-1/4 x 8 x 29-1/4"

Weight, 17 lbs.

CONTENTS

12 Extra Heavy Duty "Supersockets" with 12-point openings — 1-1/6, 1-1/8, 1-1/4, 1-7/16, 1-1/2, 1-5/8, 1-13/16, 1-7/8, 2-3/16, 2-1/4 and 2-3/8".

1 NX-20B — Sliding Handle—1" diameter, 20" long.

1 NX-20C—Adapter for Sliding Handle, NX-20B.

1 NX-41 — Flex Handle, 27" long.

1 NX-51 — Reversible Ratchet, 25" long.

1 NX-110 — Extension Bar, 9" long.

1 NX-115 — Extension Bar 18" long.

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS
Selected Alloy Steel
EXTRA HEAVY DUTY PATTERN
1" SQUARE DRIVE

SET No. NX-2

Complete in Metal Case

10 Pieces

7 Sockets and 3 Attachments

Total Weight, 35-1/8 lbs.

2 Color Steel Case Only

4-1/4 x 5-1/4 x 20-3/4"

Weight, 10-1/8 lbs.



CONTENTS

- | | |
|---|---|
| <p>7 Extra Heavy Duty "Supersockets" with 12-point openings—1-1/4, 1-7/16, 1-5/8, 1-13/16, 2, 2-3/16 and 2-3/8".</p> | <p>1 NX-20B — Sliding Handle — 1" diameter, 20" long. 1 NX-20C — Adapter for Sliding Handle NX-20B. 1 NX-110 — Extension Bar, 9" long.</p> |
|---|---|

SET No. NX-3

Complete in Metal Case

12 Pieces

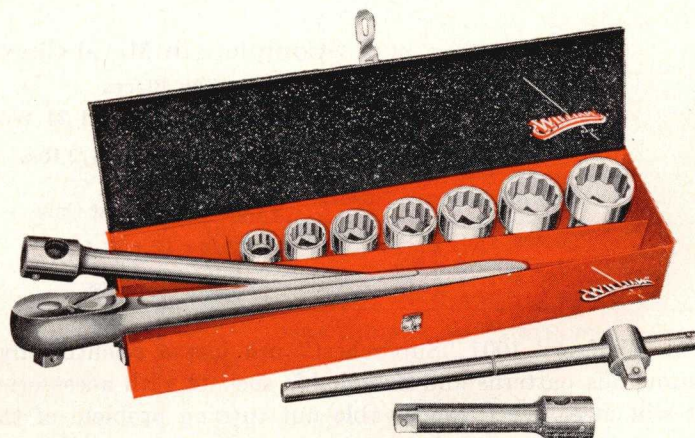
7 Sockets and 5 Attachments

Total Weight, 57-1/4 lbs.

2 Color Steel Case Only

4-1/4 x 6-1/2 x 26"

Weight, 13-1/2 lbs.

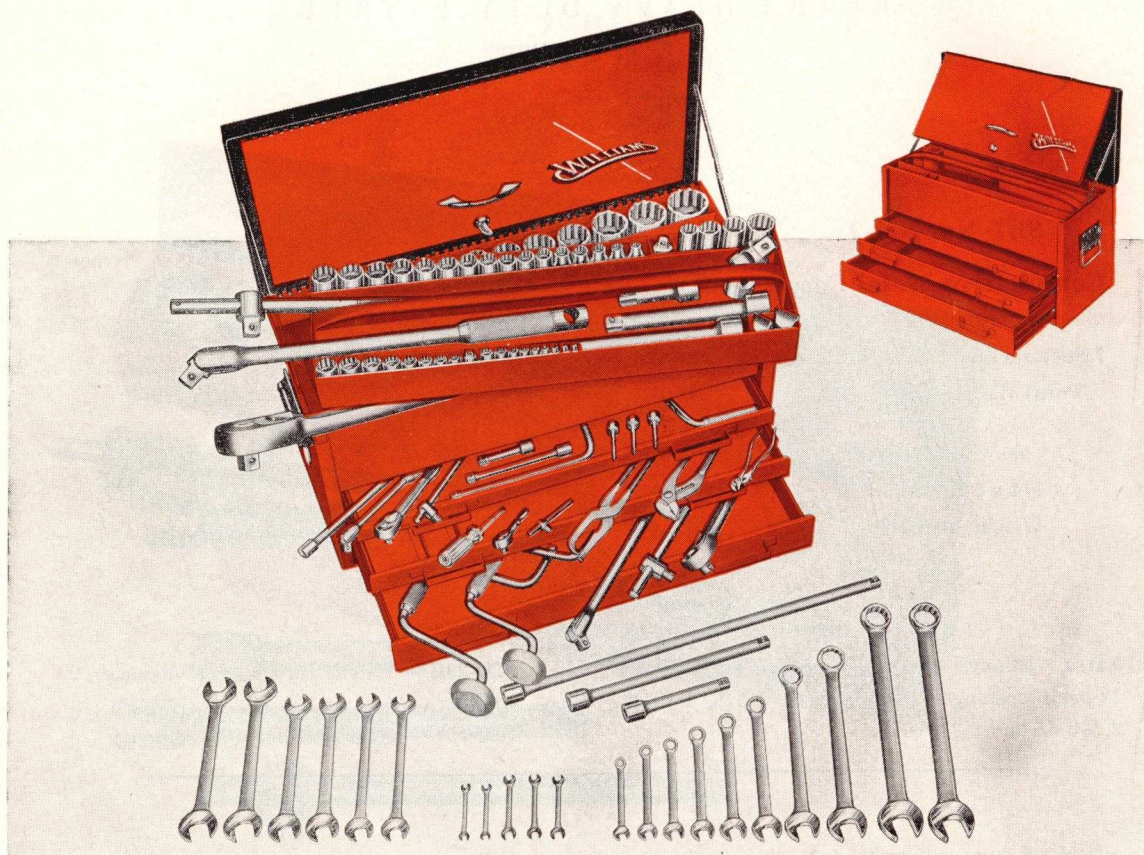


CONTENTS

- | | |
|---|---|
| <p>7 Extra Heavy Duty "Supersockets" with 12-point openings—1-1/4, 1-7/16, 1-5/8, 1-13/16, 2, 2-3/16 and 2-3/8".</p> | <p>1 NX-20C — Adapter for Sliding Handle, NX-20B. 1 NX-51 — Reversible Ratchet, 25" long. 1 NX-110 — Extension Bar, 9" long. 1 NX-115 — Extension Bar, 18" long.</p> |
| <p>1 NX-20B — Sliding Handle — 1" diameter, 20" long.</p> | |

WILLIAMS' "SUPERCHEST" No. 1001

Selected Alloy Steel



Complete in Metal Chest

100 Pieces

44 Sockets, 32 Attachments and 24 Wrenches, etc.

Total Weight, 90-1/2 lbs.

2 Color Steel Chest Only

10-1/4 x 12 x 23-1/2"

Weight, 36 lbs.

The Williams' 1001 "Superchest" provides a scientifically matched assortment of wrenches in numerous patterns and detachable sockets with accessories in 1/4, 3/8, 1/2 and 3/4" drives that will meet every conceivable nut turning problem of the Machinist or Master Mechanic.

This smartly designed "Superchest" is constructed of heavy gauge steel adequately reinforced and welded. It is built to last a lifetime.

Drawers with handy compartments operate on free acting suspension slides. Removable "tote" tray gives

easy access to the roomy interior and has convenient compartments which keep sockets at proper height within easy finger-tip reach. Heavy duty handles provide for transportation. A cylinder lock on the hinged front panel securely locks entire chest.

(Contents listed on following page)

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WILLIAMS' "SUPERCHEST" No. 1001

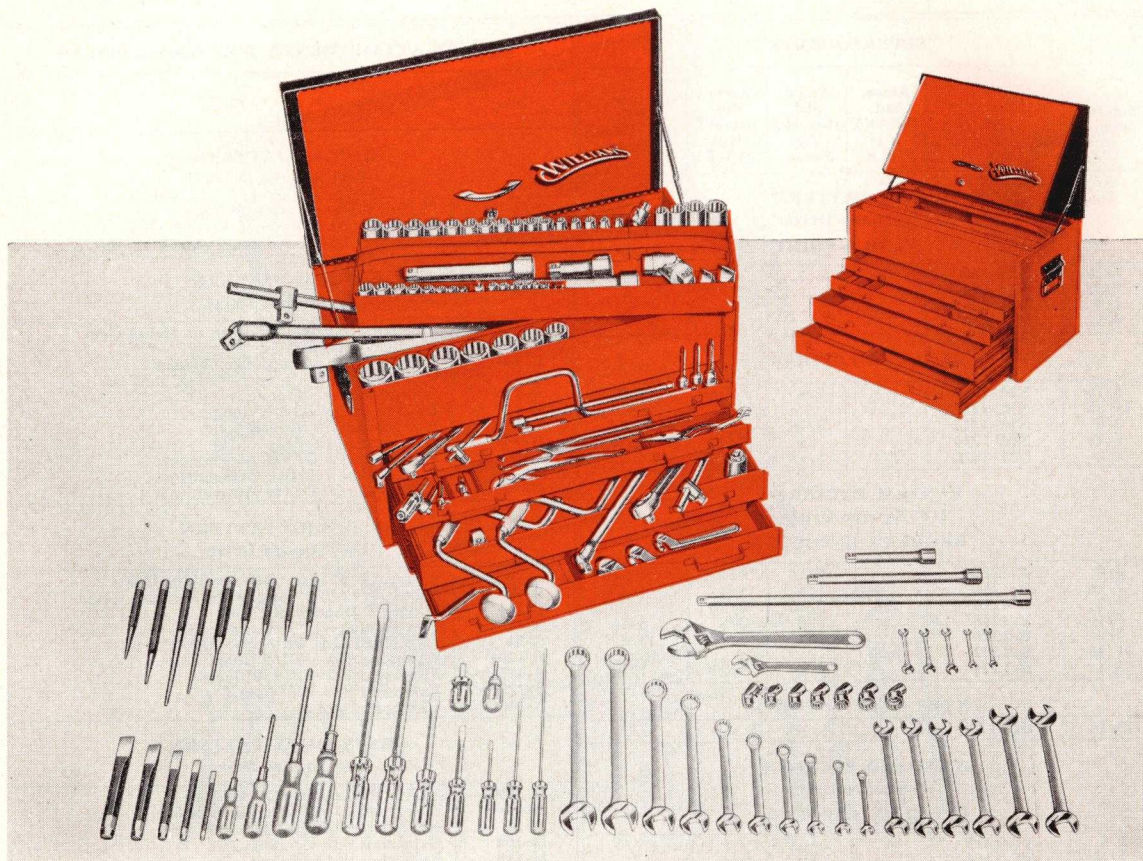
CONTENTS

| "SUPERSOCKETS" | | | | | |
|---|----------|-------------------------------|-------------------------------|-------------------------------|------------------------|
| Nominal Opening | No. | Amer. Std. HEAVY Nut (U.S.S.) | Amer. Std. Hex. Hd. Cap Screw | Amer. Std. LIGHT Nut (S.A.E.) | Amer. Std. REGULAR Nut |
| MIDGET PATTERN 1/4" Square Drive REGULAR 6-POINT | | | | | |
| 3/16 | NM-606 | | | | *No. 2 & 3 |
| 7/32 | NM-607 | | | | |
| 1/4 | NM-608 | | | | *4 |
| 9/32 | NM-609 | | | | |
| REGULAR 12-POINT | | | | | |
| 5/16 | NM-1210 | 1/8 | 1/8 | | *5 & 6 |
| 11/32 | NM-1211 | | | | *8 |
| 3/8 | NM-1212 | | 3/16 | | *10 |
| 7/16 | NM-1214 | | 1/4 | 1/4 | *12 & 1/4 |
| 1/2 | NM-1216 | 1/4 | 5/16 | 5/16 | |
| BANTAM PATTERN 3/8" Square Drive REGULAR 12-POINT | | | | | |
| 3/8 | B-1212 | | 3/16 | | *No. 10 |
| 7/16 | B-1214 | | 1/4 | 1/4 | 1/4 |
| 1/2 | B-1216 | 1/4 | 5/16 | 5/16 | |
| 9/16 | B-1218 | | 3/8 | 3/8 | 5/16 |
| 5/8 | B-1220 | | 7/16 | 7/16 | 3/8 |
| 11/16 | B-1222 | 3/8 | | | |
| 3/4 | B-1224 | | 1/2 | 1/2 | 7/16 |
| EXTRA DEEP 12-POINT | | | | | |
| 13/16 | BD-1226 | | 9/16 | | 1/2 |
| STANDARD PATTERN 1/2" Square Drive REGULAR 12-POINT | | | | | |
| 3/8 | ST-1212 | | 3/16 | | |
| 7/16 | ST-1214 | | 1/4 | 1/4 | 1/4 |
| 1/2 | ST-1216 | 1/4 | 5/16 | 5/16 | |
| 9/16 | ST-1218 | | 3/8 | 3/8 | 5/16 |
| 9/16 | ST-1218 | | 7/16 | 7/16 | 3/8 |
| 19/32 | ST-1219 | 5/16 | | | |
| 5/8 | ST-1220 | | | | |
| 21/32 | ST-1221 | | 1/2 | 1/2 | 7/16 |
| 11/16 | ST-1222 | 3/8 | | | |
| 3/4 | ST-1224 | | 9/16 | 9/16 | 1/2 |
| 25/32 | ST-1225 | 7/16 | | | |
| 13/16 | ST-1226 | 1/2 | 5/8 | 5/8 | 9/16 |
| 7/8 | ST-1228 | 9/16 | | | |
| 15/16 | ST-1230 | | 3/4 | | 5/8 |
| 31/32 | ST-1231 | | | | |
| 1 | ST-1232 | | | | |
| EXTRA DEEP 12-POINT | | | | | |
| 11/16 | SD-1222 | 3/8 | 9/16 | | 1/2 |
| 13/16 | SD-1226 | | | | |
| 7/8 | SD-1228T | | | | |
| 1 | SD-1232 | | 3/4 | | 5/8 |
| DRAG LINK SOCKET BITS | | | | | |
| 15/16 | SB-30 | Size Blade—7/64 x 15/16" | | | |
| 1-1/4 | SB-40 | Size Blade—3/32 x 1-1/4" | | | |
| HEAVY DUTY PATTERN 3/4" Square Drive REGULAR 12-POINT | | | | | |
| 1-1/16 | H-1234 | 5/8 | | 3/4 | |
| 1-1/8 | H-1236 | | 7/8 | | 3/4 |
| 1-1/4 | H-1240 | 3/4 | | 7/8 | |
| 1-5/16 | H-1242 | | 1 | | 7/8 |
| 1-7/16 | H-1246 | 7/8 | | 1 | |
| 1-1/2 | H-1248 | | 1-1/8 | | 1 |
| 1-5/8 | H-1252 | 1 | | 1-1/8 | |

| SOCKET ATTACHMENTS, WRENCHES, PLIERS | |
|---|--|
| No. | Piece |
| MIDGET PATTERN 1/4" Square Drive | |
| NM-20A | Sliding T Handle—4-1/2" long. |
| NM-51 | REVERSIBLE Ratchet—4-1/2" long. |
| NM-106 | Extension Driver—6" long; plastic handle. |
| BANTAM PATTERN 3/8" Square Drive | |
| B-15 | Speeder—16-1/2" long, with revolving Grip. |
| B-20A | Sliding T Handle—6-1/2" long. |
| B-40 | Flex Handle—8" long; flexible head. |
| B-51 | REVERSIBLE Ratchet—6-1/2" long. |
| B-108 | Extension Bar—3" long. |
| B-110 | Extension Bar—5-3/4" long. |
| B-115 | Extension Bar—10-1/2" long. |
| B-140 | Universal Joint. |
| BP-2 | Phillips Screw Driver Attachment. |
| BP-3 | Phillips Screw Driver Attachment. |
| BP-4 | Phillips Screw Driver Attachment. |
| STANDARD PATTERN 1/2" Square Drive | |
| S-10 | Speeder—12" long, with revolving Grips. |
| S-15 | Speeder—17-1/2" long, with revolving Grips. |
| S-20A | Sliding T Handle—11" long. |
| S-41 | Flex Handle—17"—flexible head. |
| S-51 | REVERSIBLE Ratchet—10-1/2" long. |
| S-110P | Extension Bar—5-1/2" long. |
| S-115P | Extension Bar—10-1/2" long. |
| S-121P | Extension Bar—20" long. |
| S-140 | Universal Joint. |
| HEAVY DUTY PATTERN 3/4" Square Drive | |
| H-20A | Sliding T Handle—17-1/2" long. |
| H-41 | Flex Handle—20" long; flexible head. |
| H-51 | REVERSIBLE Ratchet—19" long. |
| H-104 | Extension Bar—4" long. |
| H-110 | Extension Bar—8" long. |
| H-115 | Extension Bar—15-1/2" long. |
| H-140 | Universal Joint. |
| LONG THIN "SUPERRENCHES" | |
| 1090D | Openings 1/2" & 9/16"—8" long. |
| 1090D | |
| 1092F | Openings 5/8" & 11/16"—8" long. |
| 1092F | |
| 1094 | Openings 3/4" & 7/8"—9" long. |
| 1094 | |
| MIDGET "SUPERRENCHES" | |
| 1106 | Openings 13/64 & 7/32" } 3" long. |
| 1107 | |
| 1108 | |
| 1108A | |
| 1109 | Openings 1/4 & 5/16" } 3-1/2" long. |
| OPEN END-BOX "SUPERRENCHES" | |
| 1159 | Openings 5/16 & 5/16"—4-3/8" long. |
| 1160 | |
| 1161 | |
| 1162 | |
| 1163 | |
| 1164 | |
| 1166 | |
| 1167 | |
| 1168 | |
| 1170 | |
| 1170 | |
| 1170 | |
| 1170 | |
| 1170 | |
| "SUPERPLIERS" | |
| 1517 | Pliers, 13"; for brake-shoe springs. |
| 1519 | Midget, 4-1/2"; 4-position slip-joint plier. |
| 1520 | Standard, 9-1/2"; 8-position slip-joint. |

* Machine Screw Nut.

WILLIAMS' "SUPERCHEST" No. 2001
Selected Alloy Steel



Complete in Metal Chest

146 Pieces

51 Sockets, 37 Attachments and 58 Wrenches, etc.

Total Weight, 118-1/2 lbs.

2 Color Steel Chest Only

12-5/8 x 15-1/8 x 23-1/2"

Weight, 51 lbs.

Williams' 2001 "Superchest" is a superbly complete set of tools—a miniature tool room. A wide range of "Supersockets" with Attachments in 1/4, 3/8, 1/2 and 3/4" drives gives the operator an extremely flexible wrench system. Additional "Superwrenches," pliers, chisels, screwdrivers, etc. make this set remarkably versatile.

This smartly designed "Superchest" is constructed of heavy gauge steel adequately reinforced and welded. It is built to last a lifetime.

Drawers with handy compartments operate on free acting suspension slides. Removable "tote"

tray gives easy access to the roomy interior and has convenient compartments which keep sockets at proper height within easy finger-tip reach. Heavy duty handles provide for transportation. A cylinder lock on the hinged front panel securely locks entire chest.

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WILLIAMS' "SUPERCHEST" No. 2001

CONTENTS

| "SUPERSOCKETS" | | | | | |
|---|--|--------------------------|---------------|-----------------|------------------------|
| Nominal Opening | No. | U. S. Std. Nut | Hex Cap Screw | S.A.E. Std. Nut | Amer. Std. REGULAR Nut |
| MIDGET PATTERN—1/4" Square Drive | | | | | |
| REGULAR 6-POINT | | | | | |
| 3/16 | NM-606 | | | | *No. 2 & 3 |
| 7/32 | NM-607 | | | | |
| 1/4 | NM-608 | | | | *4 |
| 9/32 | NM-609 | | | | |
| REGULAR 12-POINT | | | | | |
| 5/16 | NM-1210 | 1/8 | 1/8 | | *5 & 6 |
| 11/32 | NM-1211 | | | | *8 |
| 3/8 | NM-1212 | | 3/16 | | *10 |
| 7/16 | NM-1214 | | 1/4 | 1/4 | *12 & 1/4 |
| 1/2 | NM-1216 | 1/4 | 5/16 | 5/16 | |
| BANTAM PATTERN—3/8" Square Drive | | | | | |
| REGULAR 12-POINT | | | | | |
| 3/8 | B-1212 | | 3/16 | | *No. 10 |
| 7/16 | B-1214 | | 1/4 | 1/4 | 1/4 |
| 1/2 | B-1216 | 1/4 | 5/16 | 5/16 | |
| 9/16 | B-1218 | | 3/8 | 3/8 | 5/16 |
| 5/8 | B-1220 | | 7/16 | 7/16 | 3/8 |
| 11/16 | B-1222 | 3/8 | | | |
| 3/4 | B-1224 | | 1/2 | 1/2 | 7/16 |
| 13/16 | BD-1226 | | 9/16 | | 1/2 |
| UNIVERSAL 12-POINT | | | | | |
| 3/8 | BU-1212 | | 3/16 | | *10 |
| 7/16 | BU-1214 | | 1/4 | 1/4 | *12 & 1/4 |
| 1/2 | BU-1216 | 1/4 | 5/16 | 5/16 | |
| 9/16 | BU-1218 | | 3/8 | 3/8 | 5/16 |
| 5/8 | BU-1220 | | 7/16 | 7/16 | 3/8 |
| 11/16 | BU-1222 | 3/8 | | | |
| 3/4 | BU-1224 | | 1/2 | 1/2 | 7/16 |
| STANDARD PATTERN—1/2" Square Drive | | | | | |
| REGULAR 12-POINT | | | | | |
| 3/8 | ST-1212 | | 3/16 | | |
| 7/16 | ST-1214 | | 1/4 | 1/4 | 1/4 |
| 1/2 | ST-1216 | 1/4 | 5/16 | 5/16 | |
| 9/16 | SF-1218 | | | | |
| 9/16 | ST-1218 | | 3/8 | 3/8 | 5/16 |
| 19/32 | ST-1219 | 5/16 | | | |
| 5/8 | ST-1220 | | 7/16 | 7/16 | 3/8 |
| 21/32 | ST-1221 | | | | |
| 11/16 | ST-1222 | 3/8 | | | |
| 3/4 | ST-1224 | | 1/2 | 1/2 | 7/16 |
| 25/32 | ST-1225 | 7/16 | | | |
| 13/16 | ST-1226 | | 9/16 | | 1/2 |
| 7/8 | ST-1228 | 1/2 | 5/8 | 9/16 | 9/16 |
| 15/16 | ST-1230 | 9/16 | | 5/8 | |
| 31/32 | ST-1231 | | | | |
| 1 | ST-1232 | | 3/4 | | 5/8 |
| EXTRA DEEP 12-POINT | | | | | |
| 11/16 | SD-1222 | 3/8 | | | |
| 13/16 | SD-1226 | | 9/16 | | 1/2 |
| 7/8 | SD-1228T | | | | |
| 1 | SD-1232 | | 3/4 | | 5/8 |
| DRAG LINK SOCKET BITS | | | | | |
| 15/16 | SB-30 | Size Blade—7/64 x 15/16" | | | |
| 1-1/4 | SB-40 | Size Blade—3/32 x 1-1/4" | | | |
| HEAVY DUTY PATTERN—3/4" Square Drive | | | | | |
| REGULAR 12-POINT | | | | | |
| 1-1/16 | H-1234 | 5/8 | | 3/4 | |
| 1-1/8 | H-1236 | | 7/8 | | 3/4 |
| 1-1/4 | H-1240 | 3/4 | | 7/8 | |
| 1-5/16 | H-1242 | | 1 | | 7/8 |
| 1-7/16 | H-1246 | 7/8 | | 1 | |
| 1-1/2 | H-1248 | | 1-1/8 | | 1 |
| 1-5/8 | H-1252 | 1 | | 1-1/8 | |
| SOCKET ATTACHMENTS, WRENCHES, ETC. | | | | | |
| No. | Piece | | | | |
| MIDGET PATTERN—1/4" Square Drive | | | | | |
| NM-20A | Sliding T Handle—4-1/2" long. | | | | |
| NM-51 | REVERSIBLE Ratchet—4-1/2" long. | | | | |
| NM-106 | Extension Driver—6" long; plastic handle. | | | | |
| NMP-1 | Phillips Screw Driver Attachment. | | | | |
| NMP-2 | Phillips Screw Driver Attachment. | | | | |
| BANTAM PATTERN—3/8" Square Drive | | | | | |
| B-15 | Speeder—16-1/2" long, with revolving Grip. | | | | |
| B-20A | Sliding T Handle—6-1/2" long. | | | | |
| B-40 | Flex Handle—8" long; flexible head. | | | | |
| B-51 | REVERSIBLE Ratchet—6-1/2" long. | | | | |
| B-108 | Extension Bar—3" long. | | | | |
| B-110 | Extension Bar—5-3/4" long. | | | | |
| B-115 | Extension Bar—10-1/2" long. | | | | |
| B-140 | Universal Joint. | | | | |
| BP-2 | Phillips Screw Driver Attachment. | | | | |
| BP-3 | Phillips Screw Driver Attachment. | | | | |
| BP-4 | Phillips Screw Driver Attachment. | | | | |
| BS-130 | Adapter 3/8" sq. female and 1/2" sq. male | | | | |
| SOCKET ATTACHMENTS, WRENCHES, ETC. | | | | | |
| No. | Piece | | | | |
| STANDARD PATTERN—1/2" Square Drive | | | | | |
| S-10 | Speeder—12" long, with revolving Grips. | | | | |
| S-15 | Speeder—17-1/2" long, with revolving Grips. | | | | |
| S-20A | Sliding T Handle—11" long. | | | | |
| S-41 | Extra Long Flex Handle—17" flexible head. | | | | |
| S-51 | REVERSIBLE Ratchet—10-1/2" long. | | | | |
| S-55 | REVERSIBLE Ratchet Adapter. | | | | |
| S-110P | Extension Bar—5-1/2" long. | | | | |
| S-115P | Extension Bar—10-1/2" long. | | | | |
| S-121P | Extension Bar—20" long. | | | | |
| S-140 | Universal Joint. | | | | |
| SH-130 | Adapter—1/2" sq. female—3/4" sq. male. | | | | |
| HEAVY DUTY PATTERN—3/4" Square Drive | | | | | |
| H-20A | Sliding T Handle—17-1/2" long. | | | | |
| H-41 | Flex Handle—20" long; flexible head. | | | | |
| H-51 | REVERSIBLE Ratchet—19" long. | | | | |
| H-104 | Extension Bar—4" long. | | | | |
| H-110 | Extension Bar—8" long. | | | | |
| H-115 | Extension Bar—15-1/2" long. | | | | |
| H-140 | Universal Joint. | | | | |
| LONG THIN "SUPERRENCHES" | | | | | |
| 1090D | Openings 1/2" & 9/16"—8" long. | | | | |
| 1090D | | | | | |
| 1092F | | | | | |
| 1092F | Openings 5/8" & 11/16"—8" long. | | | | |
| 1094 | | | | | |
| 1094 | | | | | |
| 1094 | Openings 3/4" & 7/8"—9" long. | | | | |
| 1094 | | | | | |
| 1094 | | | | | |
| MIDGET "SUPERRENCHES" | | | | | |
| 1106 | Openings 13/64" & 7/32" | | | | |
| 1107 | " 15/64" & 1/4" | | | | |
| 1108 | " 9/32" & 11/32" | | | | |
| 1108A | " 1/4" & 5/16" | | | | |
| 1109 | " 5/16" & 3/8" | | | | |
| OPEN END-BOX "SUPERRENCHES" | | | | | |
| 1159 | Openings 5/16" & 5/16"—4-3/8" long. | | | | |
| 1160 | " 3/8" & 3/8"—5" long. | | | | |
| 1161 | " 7/16" & 7/16"—5-3/8" long. | | | | |
| 1162 | " 1/2" & 1/2"—6" long. | | | | |
| 1163 | " 9/16" & 9/16"—6-3/4" long. | | | | |
| 1164 | " 5/8" & 5/8"—7-5/8" long. | | | | |
| 1166 | " 3/4" & 3/4"—9-1/2" long. | | | | |
| 1167 | " 7/8" & 7/8"—10-1/2" long. | | | | |
| 1168 | " 15/16" & 15/16"—13" long. | | | | |
| 1170 | " 1" & 1"—13" long. | | | | |
| ADJUSTABLE HOOK SPANNERS | | | | | |
| 1471 | Capacity for Circles, 3/4 to 2" | | | | |
| 1472 | " " 1- 1/4 to 3" | | | | |
| 1474 | " " 2 to 4-3/4" | | | | |
| "SUPERJUSTABLES" | | | | | |
| 6" | Capacity—3/4" | | | | |
| 12" | " —1-5/16" | | | | |
| SPECIAL "SUPERRENCH" | | | | | |
| 1998B | For Star Nut, etc.—Bendix Hydraulic. | | | | |
| "SUPERPLIERS," ETC. | | | | | |
| 76 | Needle Nose Side Cutting Pliers—6" long. | | | | |
| 1517 | Pliers, 13"; for brake-shoe springs. | | | | |
| 1519 | Midget, 4-1/2"; 4-position slip-joint plier. | | | | |
| 1520 | Standard, 9-1/2"; 8-position slip-joint. | | | | |
| REGULAR SCREW DRIVERS | | | | | |
| 4 | Square Blade—length 4" | | | | |
| 6 | Square Blade—length 6" | | | | |
| 8 | Square Blade—length 8" | | | | |
| 12 | Square Blade—length 12" | | | | |
| 43 | Round Blade—length 3" | | | | |
| 46 | Round Blade—length 6" | | | | |
| 50 | Round Blade—length 10" | | | | |
| 62 | Regular Stubby—blade length, 1-1/2" | | | | |
| PHILLIPS SCREW DRIVERS | | | | | |
| WP-1 | Fits Screws No. 4 and smaller. | | | | |
| WP-2 | " " 5 to 9 inclusive. | | | | |
| WP-3 | " " 10 to 16 inclusive. | | | | |
| WP-4 | " " 18 and larger. | | | | |
| WP-62 | Stubby, " " 5 to 9 inclusive. | | | | |
| PUNCHES | | | | | |
| P-4 | Pin Punch—6" long—1/8" point. | | | | |
| P-6 | Pin Punch—6" long—3/16" point. | | | | |
| P-8 | Pin Punch—8" long—1/4" point. | | | | |
| P-13 | Solid Punch—6" long—3/32" point. | | | | |
| P-14 | Solid Punch—8" long—1/8" point. | | | | |
| P-25 | Long Taper Punch—9" long—5/32" point. | | | | |
| P-26 | Long Taper Punch—10" long—3/16" point. | | | | |
| P-30 | Prick Punch—5" long. | | | | |
| P-40 | Center Punch—5" long. | | | | |
| CHISELS | | | | | |
| C-8 | Width of Cut—1/4"—4-3/4" long. | | | | |
| C-12 | " " —3/8"—5-1/2" long. | | | | |
| C-16 | " " —1/2"—6" long. | | | | |
| C-20 | " " —5/8"—6-1/2" long. | | | | |
| C-24 | " " —3/4"—7" long. | | | | |

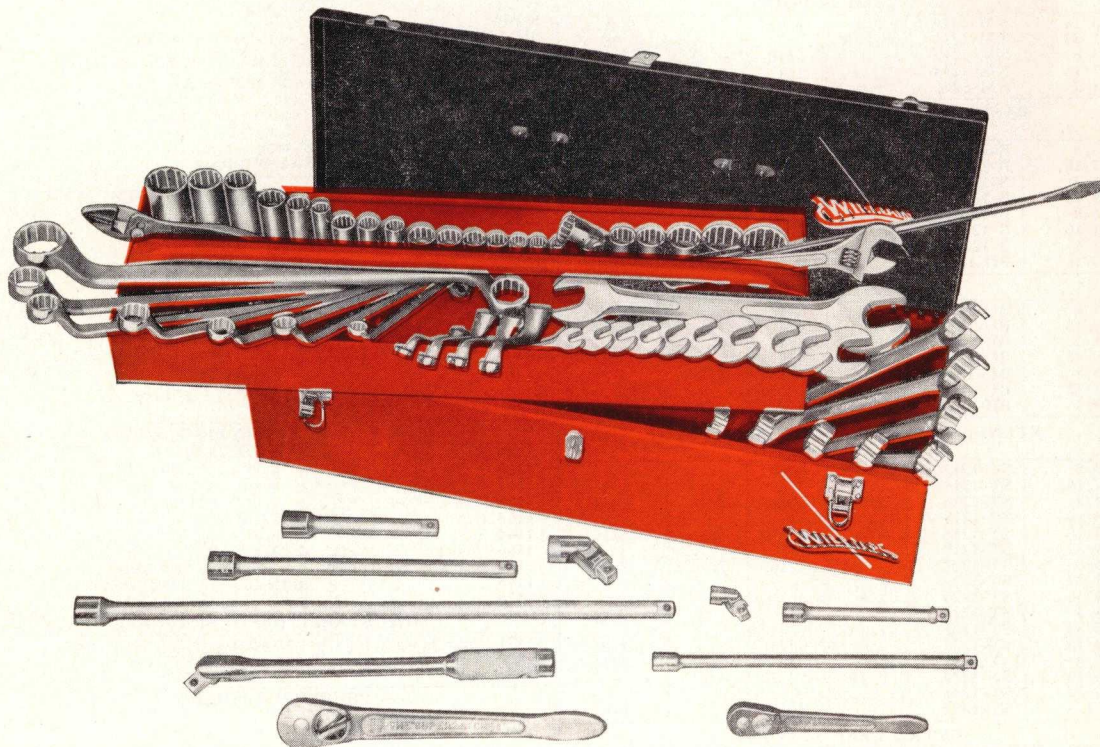
* Machine Screw Nut.

† Extra Deep Socket.

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel

FOR DIESEL ENGINE SERVICE



Set Illustrated is DLP-65

SET No. DLM-52

**For Diesel Engine
Mechanics**

Total Weight, 35-5/8 lbs.

SET No. DLE-53

**For Diesel Engine
Electricians**

Total Weight, 33 lbs.

SET No. DLP-65

**For Diesel Engine
Pipe Fitters**

Total Weight, 41-1/2 lbs.

All Sets Complete in Metal Case, 6-3/4 x 7-1/2 x 23-1/4"

These sets are specially designed for mechanics, electricians and pipe fitters who service diesel engine installations in all types of stationary and mobile units such as power plants, locomotives, ships, trucks, tractors, buses, etc. They are particularly adapted for use by manufacturers of diesel powered equipment who require service tools as part of the original equipment or in assembly work.

(Contents listed on following page)

WILLIAMS' "SUPERSOCKET" WRENCH SETS

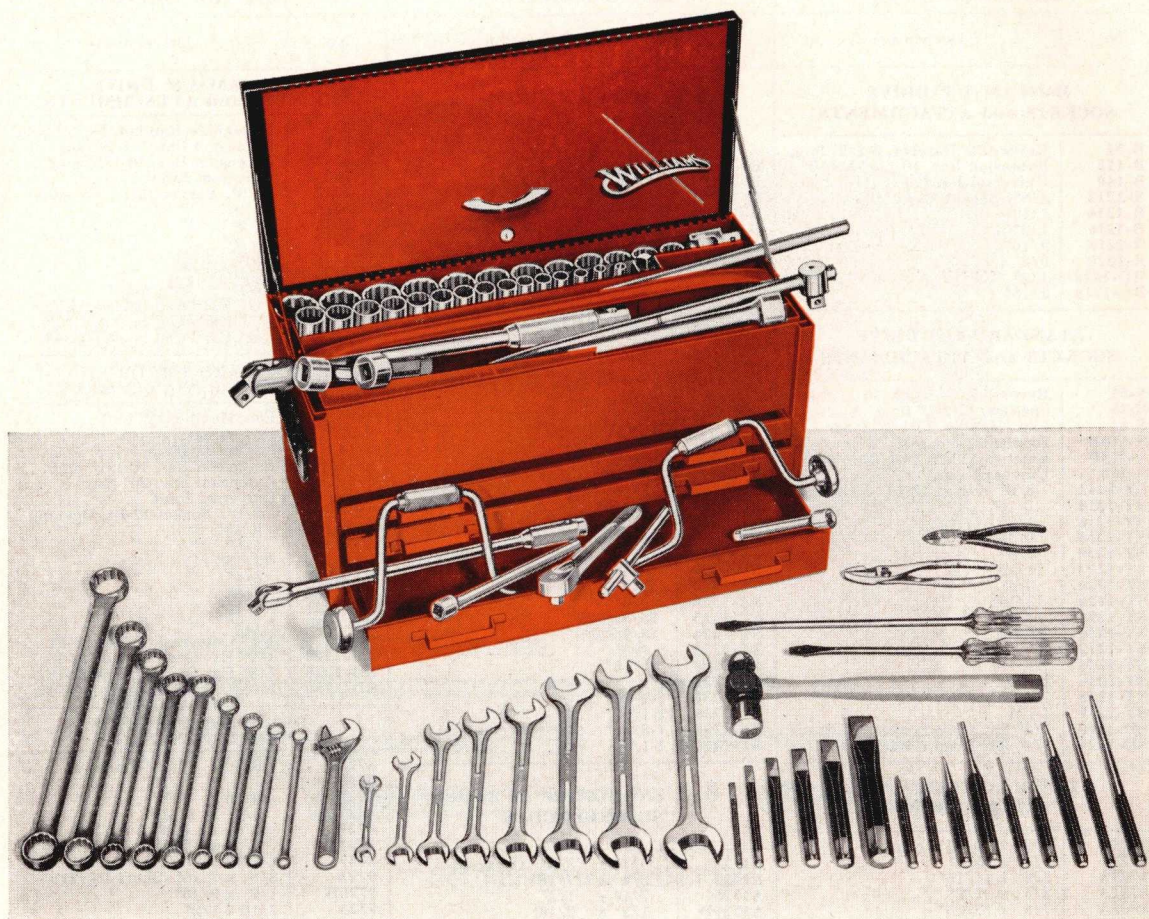
Selected Alloy Steel

CONTENTS

| SET No. DLM-52 | | SET No. DLE-53 | | SET No. DLP-65 | |
|--|-----------------------------------|--|-----------------------------------|--|-----------------------------------|
| No. | Description | No. | Description | No. | Description |
| BANTAM 3/8" DRIVE SOCKETS and ATTACHMENTS | | BANTAM 3/8" DRIVE SOCKETS and ATTACHMENTS | | BANTAM 3/8" DRIVE SOCKETS and ATTACHMENTS | |
| B-51 | Reversible Ratchet, 6-1/2" long. | B-51 | Reversible Ratchet, 6-1/2" long. | B-51 | Reversible Ratchet, 6-1/2" long. |
| B-115 | Extension Bar, 10-1/2" long. | B-1212 | 3/8" Socket 12-Pt. Opening | B-110 | Extension Bar, 5-1/2" long. |
| B-140 | Universal Joint. | B-1214 | 7/16" " " " | B-115 | Extension Bar, 10-1/2" long. |
| B-1212 | 3/8" Socket 12-Pt. Opening | B-1216 | 1/2" " " " | B-140 | Universal Joint. |
| B-1214 | 7/16" " " " | B-1218 | 9/16" " " " | B-1212 | 3/8" Socket 12-Pt. Opening |
| B-1216 | 1/2" " " " | B-1220 | 5/8" " " " | B-1214 | 7/16" " " " |
| B-1218 | 9/16" " " " | B-1222 | 11/16" " " " | B-1216 | 1/2" " " " |
| B-1220 | 5/8" " " " | B-1224 | 3/4" " " " | B-1218 | 9/16" " " " |
| B-1222 | 11/16" " " " | BD-1226 | 13/16" Ex. Deep Socket 12-Pt. | B-1220 | 5/8" " " " |
| BU-1216 | 1/2" Universal Socket 12-Pt. | B-140 | Universal Joint. | B-1222 | 11/16" " " " |
| BU-1218 | 9/16" " " " | | | B-1224 | 3/4" " " " |
| | | | | BD-1216 | 1/2" Ex. Deep Socket 12-Pt. |
| | | | | BD-1220 | 5/8" Ex. Deep Socket 12-Pt. |
| | | | | BD-1224 | 3/4" Ex. Deep Socket 12-Pt. |
| STANDARD 1/2" DRIVE SOCKETS and ATTACHMENTS | | STANDARD 1/2" DRIVE SOCKETS and ATTACHMENTS | | STANDARD 1/2" DRIVE SOCKETS and ATTACHMENTS | |
| S-51 | Reversible Ratchet, 10-1/2" long. | S-51 | Reversible Ratchet, 10-1/2" long. | S-40 | Flex Handle, 12" long. |
| S-15 | Speeder, 17-1/2" long. | S-15 | Speeder, 17-1/2" long. | S-51 | Reversible Ratchet, 10-1/2" long. |
| S-41 | Flex. Handle, 17-1/4" long. | SB-30 | Screw Driver Attachment. | S-110P | Extension Bar, 5-1/2" long. |
| S-110P | Extension Bar, 5-1/2" long. | S-140 | Universal Joint. | S-115P | Extension Bar, 10-1/2" long. |
| S-115P | Extension Bar, 10-1/2" long. | ST-1212 | 3/8" Socket 12-Pt. Opening | S-121P | Extension Bar, 20" long. |
| S-140 | Universal Joint. | ST-1214 | 7/16" " " " | S-140 | Universal Joint. |
| ST-1212 | 3/8" Socket 12-Pt. Opening | ST-1216 | 1/2" " " " | ST-1216 | 3/8" Socket 12-Pt. Opening |
| ST-1214 | 7/16" " " " | ST-1218 | 9/16" " " " | ST-1218 | 9/16" " " " |
| ST-1216 | 1/2" " " " | ST-1219 | 19/32" " " " | ST-1220 | 5/8" " " " |
| ST-1218 | 9/16" " " " | ST-1220 | 5/8" " " " | ST-1222 | 11/16" " " " |
| ST-1220 | 5/8" " " " | ST-1222 | 11/16" " " " | ST-1224 | 3/4" " " " |
| ST-1222 | 11/16" " " " | ST-1224 | 3/4" " " " | ST-1228 | 7/8" " " " |
| ST-1224 | 3/4" " " " | ST-1225 | 25/32" " " " | ST-1234 | 1-1/16" " " " |
| ST-1226 | 13/16" " " " | ST-1226 | 13/16" " " " | ST-1236 | 1-1/8" " " " |
| ST-1228 | 7/8" " " " | ST-1228 | 7/8" " " " | SU-1224 | 3/4" Universal Socket 12-Pt. |
| ST-1230 | 15/16" " " " | ST-1230 | 15/16" " " " | SD-1224 | 3/4" Ex. Deep Socket 12-Pt. |
| ST-1232 | 1" " " " | ST-1232 | 1" " " " | SD-1228 | 7/8" Ex. Deep Socket 12-Pt. |
| ST-1234 | 1-1/16" " " " | ST-1234 | 1-1/16" " " " | SD-1236 | 1-1/8" Ex. Deep Socket 12-Pt. |
| ST-1236 | 1-1/8" " " " | ST-1236 | 1-1/8" " " " | | |
| ST-1238 | 1-3/16" " " " | ST-1238 | 1-3/16" " " " | DOUBLE OFFSET-BOX "SUPERRENCHES" | |
| ST-1240 | 1-1/4" " " " | ST-1240 | 1-1/4" " " " | 8725B | 1/2 x 9/16" Opening |
| SD-1216 | 1/2" Ex. Deep Socket, 12-Pt. | | | 8727 | 9/16 x 5/8" " |
| SD-1224 | 3/4" Ex. Deep Socket, 12-Pt. | | | 8727A | 5/8 x 11/16" " |
| | | | | 8731A | 3/4 x 7/8" " |
| | | | | 8033A | 7/8 x 15/16" " |
| DOUBLE OFFSET-BOX "SUPERRENCHES" | | D. H. ENGINEERS' 15° Angle "SUPERRENCHES" | | 8729 | 5/8 x 3/4" " |
| 8725B | 1/2 x 9/16" Opening | A1721 | 5/16 x 3/8" Openings | 8731A | 3/4 x 7/8" " |
| 8727 | 9/16 x 5/8" " | A1723 | 3/8 x 7/16" " | 8037 | 1-1/16 x 1-1/4" " |
| 8727A | 5/8 x 11/16" " | A1725 | 7/16 x 1/2" " | 9723 | 3/8 x 7/16" (Short Pattern) |
| 8731A | 3/4 x 7/8" " | A1725B | 1/2 x 9/16" " | 9725B | 1/2 x 9/16" " |
| 8033A | 7/8 x 15/16" " | A1727 | 9/16 x 5/8" " | 9725 | 7/16 x 1/2" " |
| | | A1027 | 19/32 x 11/16" " | 9727 | 9/16 x 5/8" " |
| | | A1027B | 5/8 x 11/16" " | | |
| | | A1729 | 5/8 x 3/4" " | FLARE NUT PATTERN "SUPERRENCHES" | |
| | | A1029B | 11/16 x 3/4" " | 1318 | 9/16" Opening |
| | | A1731A | 3/4 x 7/8" " | 1320 | 5/8" " |
| | | A1031B | 25/32 x 13/16" " | 1322 | 11/16" " |
| | | A1033A | 7/8 x 15/16" " | 1324 | 3/4" " |
| | | A1033C | 15/16 x 1" " | 1328 | 7/8" " |
| | | A1735 | 1 x 1-1/8" " | 1332 | 1" " |
| | | A1036B | 1-1/16 x 1-1/8" " | 1334 | 1-1/16" " |
| | | | | 1336 | 1-1/8" " |
| PLIERS | | PLIERS | | D. H. ENGINEERS' 15° Angle "SUPERRENCHES" | |
| 370 | Side Cutting Pliers, 7" | 46 | Diagonal Pliers, 6" | A1723 | 3/8 x 7/16" Opening |
| 46 | Diagonal Cutting Pliers, 6" | 76 | Needle Nose Pliers, 6" | A1725 | 7/16 x 1/2" " |
| | | 370 | Side Cutting Pliers, 7" | A1725B | 1/2 x 9/16" " |
| | | | | A1727 | 9/16 x 5/8" " |
| | | | | A1027B | 5/8 x 11/16" " |
| | | | | A1729 | 5/8 x 3/4" " |
| | | | | A1029B | 11/16 x 3/4" " |
| | | | | A1731A | 3/4 x 7/8" " |
| | | | | A1031B | 25/32 x 13/16" " |
| | | | | A1033A | 7/8 x 15/16" " |
| | | | | A1033A | 7/8 x 15/16" " |
| | | | | A1036B | 1-1/16 x 1-1/8" " |
| SCREW DRIVERS | | SCREW DRIVERS | | | |
| 28 | Screw Driver, 8" | 28 | Screw Driver, 8" | | |
| 32 | Screw Driver, 12" | 32 | Screw Driver, 12" | | |
| | | 62 | Stubby Screw Driver | | |
| | | | | | |
| "SUPERJUSTABLE" | | "SUPERJUSTABLE" | | MISCELLANEOUS TOOLS | |
| 8" | "Superjustable" Wrench | 10" | "Superjustable" Wrench | 8" | "Superjustable" Wrench |
| | | | | 370 | Side Cutting Pliers, 7" |
| | | | | 32 | Screw Driver, 12" |

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS
Selected Alloy Steel

FOR GENERAL DIESEL ENGINE SERVICE



SET No. DLS-70

Complete in Metal Chest

10-1/4 x 12 x 23-1/2"

Total Weight, 96-1/8 lbs.

This set is specially designed for mechanics doing general service work on diesel engine installations in all types of stationary and mobile units such as power plants, locomotives, ships, trucks, tractors, buses, etc. It contains all the standard tools needed for general diesel engine service work. Ideal for all diesel locomotive service shops.

Chest is constructed of heavy gauge steel adequately reinforced and welded. Drawers with handy compartments operate on free acting suspension slides. Removable "tote" tray gives easy access to the roomy interior. Cylinder lock on hinged front panel locks entire chest.

(Contents listed on following page)

♦ REGISTERED TRADE MARK

1-52

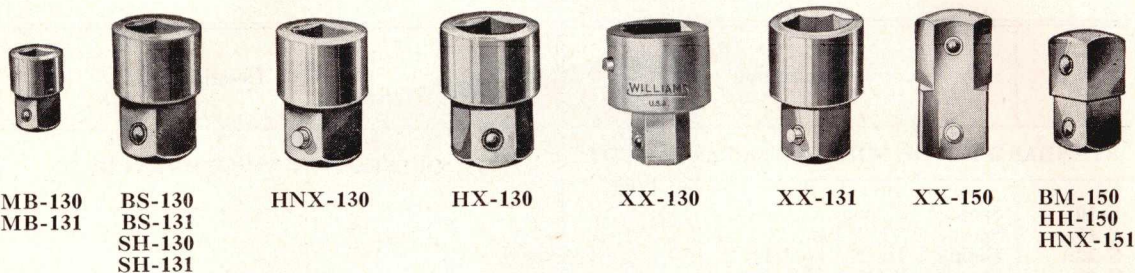
WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS
Selected Alloy Steel

CONTENTS

| No. | Description | No. | Description |
|--|---------------------------------------|--|----------------------------------|
| STANDARD 1/2" Dr. SOCKETS and ATTACH'TS | | 15° OFFSET-BOX "SUPERRENCHES" | |
| S-10 | Speeder 12" long..... | 7723 | 3/8 x 7/16" opening..... |
| S-15 | Speeder 17-1/2" long..... | 7725 | 7/16 x 1/2" "..... |
| S-20A | Sliding T Handle 11" long..... | 7725B | 1/2 x 9/16" "..... |
| S-41 | Flex Handle 17-1/4" long..... | 7727 | 9/16 x 5/8" "..... |
| S-51 | Reversible Ratchet, 10-1/2" long..... | 7729 | 5/8 x 3/4" "..... |
| S-110P | Extension Bar, 5-1/2" long..... | 7029B | 11/16 x 3/4" "..... |
| S-115P | Extension Bar, 10-1/2" long..... | 7731A | 3/4 x 7/8" "..... |
| S-140 | Universal Joint..... | 7033C | 15/16 x 1" "..... |
| ST-1212 | 3/8" Socket 12-Point Opening..... | 7735A | 1-1/16 x 1-1/8" "..... |
| ST-1214 | 7/16" " " "..... | 7037 | 1-1/16 x 1-1/4" "..... |
| ST-1216 | 1/2" " " "..... | | |
| ST-1218 | 9/16" " " "..... | D. H. ENGINEERS' 15° Angle "SUPERRENCHES" | |
| ST-1219 | 19/32" " " "..... | A1723 | 3/8 x 7/16" opening..... |
| ST-1220 | 5/8" " " "..... | A1725B | 1/2 x 9/16" "..... |
| ST-1222 | 11/16" " " "..... | A1729 | 5/8 x 3/4" "..... |
| ST-1224 | 3/4" " " "..... | A1029 | 11/16 x 25/32" "..... |
| ST-1225 | 25/32" " " "..... | A1731A | 3/4 x 7/8" "..... |
| ST-1226 | 13/16" " " "..... | A1033C | 15/16 x 1" "..... |
| ST-1228 | 7/8" " " "..... | A1036B | 1-1/16 x 1-1/8" "..... |
| ST-1230 | 15/16" " " "..... | A1737 | 1-1/8 x 1-1/4" "..... |
| ST-1231 | 31/32" " " "..... | | |
| ST-1232 | 1" " " "..... | PLIERS, SCREW DRIVERS and HAMMER | |
| ST-1234 | 1-1/16" " " "..... | 370 | Side Cutting Pliers, 7"..... |
| ST-1236 | 1-1/8" " " "..... | 46 | Diagonal Cutting Pliers, 6"..... |
| ST-1238 | 1-3/16" " " "..... | 28 | Screw Driver, 8"..... |
| ST-1240 | 1-1/4" " " "..... | 32 | Screw Driver, 12"..... |
| | | 2 | Ball Pein Hammer..... |
| HEAVY DUTY 3/4" Dr. SOCKETS and ATTACH'TS | | PUNCHES and CHISELS | |
| H-20A | Sliding T Handle, 17-1/2" long..... | P-4 | 1/8" Pin Punch..... |
| H-41 | Flex Handle, 20" long..... | P-6 | 3/16" Pin Punch..... |
| H-41B | Sliding Bar for H-41..... | P-8 | 1/4" Pin Punch..... |
| H-104 | Extension Bar, 4" long..... | P-13 | 3/32" Solid Punch..... |
| H-110 | Extension Bar, 8" long..... | P-14 | 1/8" Solid Punch..... |
| H-115 | Extension Bar, 15-1/2" long..... | P-25 | 5/32" Long Taper Punch..... |
| H-140 | Universal Joint..... | P-26 | 3/16" Long Taper Punch..... |
| H-1228 | 7/8" Socket 12-Point Opening..... | P-30 | Prick Punch..... |
| H-1230 | 15/16" " " "..... | P-40 | Center Punch..... |
| H-1232 | 1" " " "..... | C-8 | 1/4" Cold Chisel..... |
| H-1234 | 1-1/16" " " "..... | C-12 | 3/8" " "..... |
| H-1236 | 1-1/8" " " "..... | C-16 | 1/2" " "..... |
| H-1238 | 1-3/16" " " "..... | C-20 | 5/8" " "..... |
| H-1240 | 1-1/4" " " "..... | C-24 | 3/4" " "..... |
| H-1242 | 1-5/16" " " "..... | C-36 | 1-1/8" " "..... |
| H-1244 | 1-3/8" " " "..... | | |
| H-1246 | 1-7/16" " " "..... | | |
| H-1248 | 1-1/2" " " "..... | | |
| H-1252 | 1-5/8" " " "..... | | |
| "SUPERJUSTABLES" | | | |
| 8" | "Superjustable" Wrench..... | | |

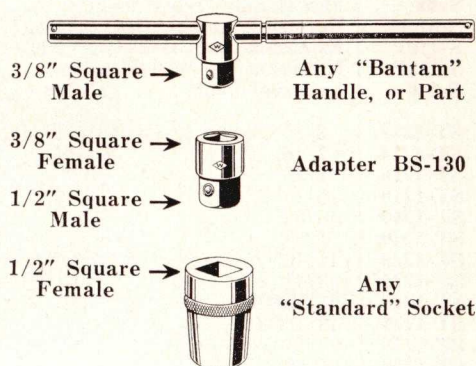
WILLIAMS' ♦ "SUPERSOCKET" WRENCHES
Selected Alloy Steel

ADAPTERS — FOR "SUPERSOCKETS", HANDLES AND PARTS



Williams' Adapters provide for the use of Sockets of one pattern with Handles and Parts of another pattern. See illustration at right showing, for instance, how Adapter BS-130 permits use of "Bantam" Handles (3/8" square male drive) with "Standard" Sockets (1/2" square female drive).

Finished in chrome-plate over nickel.



| No. | ADAPTER | Wgt. Ea. | No. |
|---------|---|----------|---------|
| BM-150 | 3/8" square male and 1/4" square male. Adapts Sockets with 3/8" drive-opening to MR-51 Refrigeration Ratchet and other Midget Handles and Parts. | .03 | BM-150 |
| MB-130 | 1/4" square female and 3/8" square male. Adapts Handles with 1/4" square drive to Sockets with 3/8" square drive. | .05 | MB-130 |
| MB-131 | 1/4" square male and 3/8" square female. Adapts Sockets with 1/4" square drive to Handles with 3/8" square drive-plug. | .05 | MB-131 |
| BS-130 | 1/2" square male and 3/8" square female. Adapts "Bantam" Handles and Parts (3/8" square male drive) to "Standard" Sockets (1/2" square drive-opening) . . | .13 | BS-130 |
| BS-131 | 3/8" square male and 1/2" square female. Adapts "Bantam" Sockets (3/8" square drive-opening) to "Standard" Handles and Parts (1/2" square male drive) . . | .15 | BS-131 |
| SH-130 | 3/4" square male and 1/2" square female. Adapts "Standard" Handles and Parts (1/2" square male drive) to "Heavy Duty" Sockets (3/4" square female drive) . | .31 | SH-130 |
| SH-131 | 3/4" square female and 1/2" square male. Adapts "Heavy Duty" Handles and Parts (3/4" square male drive) to Standard Sockets (1/2" square drive-opening | .44 | SH-131 |
| HX-130 | 1" hex male and 3/4" square female. Adapts "Heavy Duty" Handles and Parts (3/4" square male drive) to Sockets with 1" hex female drive. | .59 | HX-130 |
| HNX-130 | 1" square male and 3/4" square female. Adapts "Heavy Duty" Handles and Parts (3/4" square male drive) to "Extra Heavy Duty" Sockets (1" square drive-opening) | 1.7 | HNX-130 |
| XX-130 | 1" hex male and 1" square female. Adapts Sockets 1" hex drive-opening to Handles and Parts with 1" square male drive. | 1.2 | XX-130 |
| XX-131 | 1" hex female and 1" square male. Adapts Sockets 1" square drive-opening to Handles and Parts with 1" hex male drive. | .93 | XX-131 |
| HH-150 | 5/8" square male and 3/4" square male. Adapts Sockets with 5/8" square drive-opening to Ratchets with 3/4" square drive; also, Ratchets with 5/8" square drive to Sockets with 3/4" square drive-opening. | .2 | HH-150 |
| HNX-151 | 1" square male and 3/4" square male. Adapts Sockets with 1" square drive-opening to Ratchets with 3/4" square drive; also, Ratchets with 1" square drive to Sockets with 3/4" square drive-opening. | .44 | HNX-151 |
| XX-150 | 1" square male and 1" hex male. Adapts Sockets with 1" square drive-opening to Ratchets with 1" hex male drive; also, Ratchets with 1" square drive to Sockets, 1" hex drive-opening. | .53 | XX-150 |

WILLIAMS' ♦ "SUPERSOCKET" WRENCHES
Selected Alloy Steel
FOR HOLLOW-SCREWS



SET No. AL-102

Complete in Metal Case

13 Pieces — 10 Sockets and 3 Attachments

Total Weight, 4-1/8 lbs.

2 Color Steel Case Only

1-1/2 x 3 x 12-1/2" — Weight, 1-1/2 lbs.

This Set of Williams' detachable "Supersocket" Bits and Parts provides especially efficient wrenches for all popular hollow (hex socket) set screws and cap screws; see table.

Replacing old type L-shape wrenches, bent from hex bar steel, these tools provide all the advantages of the Detachable Socket Wrench system for users of Hollow-Screws.

Detachable "Bits," with projecting hex plug, are substituted for conventional detachable sockets. Only Williams' Bits have knurled end for fast spinning of screws before tightening.

Bits and Parts, made from Selected Alloy Steel, are heat-treated in electric furnaces. They inter-change in Williams' regular Midget, Bantam and Standard "Supersocket" lines.

| No. | HANDLES and PARTS | Wgt. Ea. | No. |
|-------|--|----------|-------|
| NM-51 | Reversible "Superratchet"—1/4" Square Drive, 4-1/2" long, Reverses instantly | .16 | NM-51 |
| B-20A | Sliding T Handle—3/8" Square Drive, 6-1/2" long..... | .26 | B-20A |
| S-40 | Flex Handle—1/2" Square Drive, 12" long, flexible head..... | 1.4 | S-40 |

"SUPERSOCKET" BITS — SOLD IN SET No. AL-102 or INDIVIDUALLY

| Bit No. | Hex. Plug, Size | Square Drive | Weight Each, Lbs. | For Hollow Screws | | Bit No. |
|---------|-----------------|--------------|-------------------|-------------------|------------|---------|
| | | | | Set Screw | Cap Screw | |
| NAM-604 | 1/8 | 1/4 | .03 | 1/4 | No. 8 | NAM-604 |
| NAM-605 | 5/32 | 1/4 | .03 | 5/16 | 10 & 12 | NAM-605 |
| NAM-606 | 3/16 | 1/4 | .03 | 3/8 | 1/4 | NAM-606 |
| NAM-607 | 7/32 | 1/4 | .03 | 7/16 | 5/16 | NAM-607 |
| AB-608 | 1/4 | 3/8 | .06 | 1/2 & 9/16 | ..... | AB-608 |
| AB-610 | 5/16 | 3/8 | .06 | 5/8 | 3/8 & 7/16 | AB-610 |
| AS-612 | 3/8 | 1/2 | .11 | 3/4 | 1/2 & 9/16 | AS-612 |
| AS-616 | 1/2 | 1/2 | .13 | 7/8 | 5/8 | AS-616 |
| AS-618 | 9/16 | 1/2 | .15 | 1 & 1 1/8 | 3/4 & 7/8 | AS-618 |
| AS-620 | 5/8 | 1/2 | .14 | 1 1/4 & 1 3/8 | 1 | AS-620 |

♦ REGISTERED TRADE MARK

WILLIAMS' REFRIGERATION WRENCHES

Selected Alloy Steel

WILLIAMS' RATCHET WRENCHES (Drop-Forged—Chrome-plated)



Especially efficient for speedy and accurate adjustment of all valves.

No. B-50A

Weight, .43 Lb.

Has 1/4" square drive-opening in ratchet; also, 1/4" sq. hole near end of handle. Length, 6-1/2".

No. B-50B

Weight, .43 Lb.

Has 5/16" sq. ratchet drive-opening. Length, 6-1/2".

WILLIAMS' RATCHET WRENCHES (Selected Alloy—Cadmium Plated)



No. MR-51

Weight, .29 Lb.

This 6" light weight drop-forged reversible ratchet has 1/4" female drive in head, 5/16", 1/4" and 3/16" square openings and 1/2" hex opening in handle for delicate adjustment of valve stems, etc.

WILLIAMS' WHEEL PULLER No. 5

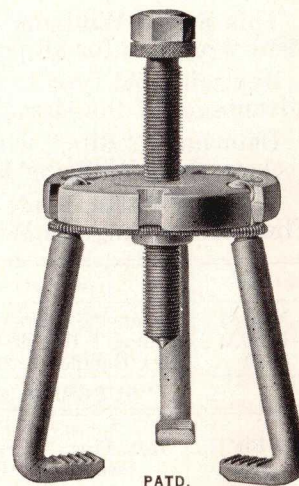
FOR REFRIGERATION SERVICE

This Williams' Wheel Puller is a simple efficient tool developed for the many pulling jobs in Refrigeration Service, such as flywheels, fans and pulleys. It can also be used for many pulling jobs on electric motors, etc.

The body, forged from high tensile steel, has four sockets into which either two or all three of the arms may be placed in various positions, providing a combination of grips. Flywheels with even or odd numbers of spokes are pulled with equal ease. All three arms are necessary for odd-spoked wheels, while only two are needed for an even number of spokes. The pulling capacity is 7" diameter.

Easily adjusted arms, processed from alloy steel, are held in place by an endless spring. They are instantly reversible by merely turning the arm in the socket for either internal or external pulling. This feature eliminates the need of removing or depositing the arms.

The hex head of the power screw, on which any convenient wrench can be used, has a knurled band to facilitate rapid hand turning. Its cone point fits into the center-hole of the shaft end.



| No. | Capacity Diameter | Body Diameter | Length Arms | Weight Each, Lbs. | Extra Parts | | | No. |
|-----|-------------------|---------------|-------------|-------------------|-------------|-------|--------|-----|
| | | | | | Arms | Screw | Spring | |
| 5 | 7 | 3 1/4 | 4 1/4 | 1.7 | | | | 5 |

1-52

WILLIAMS' "SUPERSOCKET" WRENCHES
Selected Alloy Steel

FOR REFRIGERATION SERVICE

SET No. R-19A

21 Pieces

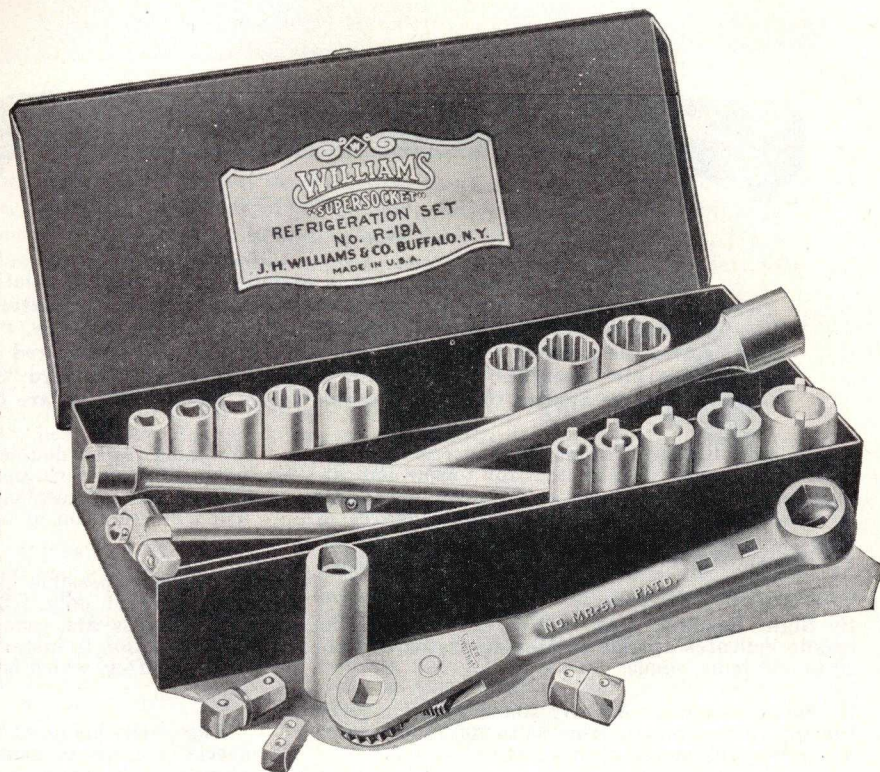
Total Weight, 2-3/4 lbs.

Steel Case Only

1-1/4 x 3-3/8 x 7-3/4"

Weight, 3/4 lbs.

This handy, compact assortment of "Supersocket" Wrenches has been carefully selected for servicing and repairing all makes of Electric Refrigerators. 14 slim, straight-wall Chrome-Alloy Sockets and 7 Accessories, including a specially designed Reversible Ratchet, described in table below.



CONTENTS OF SET



NM-406 to
NM-812

†Midget "Supersockets"
1/4" Square Drive

| No. | Square Opening | Diameter | | Weight Each Lbs. |
|--------|----------------|----------|-------|------------------|
| | | Nose | Base | |
| NM-406 | 3/16 | 7/16 | 1/2 | .03 |
| NM-407 | 7/32 | 15/32 | 1/2 | .03 |
| NM-408 | 1/4 | 1/2 | 1/2 | .03 |
| NM-810 | *5/16 | 9/16 | 9/16 | .03 |
| NM-812 | *3/8 | 11/16 | 11/16 | .05 |

† All 7/8" long.

* 8-Point Opening.



NMR-15

Kerotest Valve Packing Nut Socket
1/4" Square Drive

| No. | Oval Opening | Extreme Size | | Weight Each Lbs. |
|--------|--------------|--------------|--------|------------------|
| | | Diam. | Length | |
| NMR-15 | 1/2 x 3/8 | 5/8 | 1-1/2 | .08 |

Bantam "Supersockets"
3/8" Square Drive

| No. | 12-Point Opening | Diameter | | Weight Each Lbs. |
|--------|------------------|----------|-------|------------------|
| | | Nose | Base | |
| B-1214 | 7/16 | 39/64 | 21/32 | .05 |
| B-1216 | 1/2 | 11/16 | 11/16 | .06 |
| B-1218 | 9/16 | 49/64 | 49/64 | .07 |



B-1214 to
B-1218

†Packing Gland Nut "Supersockets"
1/4" Square Drive

| No. | Size Prongs | | Diameter | | Weight Each Lbs. |
|--------|-------------|-------|----------|---------|------------------|
| | Depth | Width | Inside | Outside | |
| NMR-2 | 3/32 | 5/64 | 21/64 | 7/16 | .03 |
| NMR-4 | 3/32 | 1/8 | 21/64 | 15/32 | .03 |
| NMR-6 | 3/32 | 7/64 | 21/64 | 9/16 | .06 |
| NMR-8 | 1/8 | 1/8 | 29/64 | 11/16 | .09 |
| NMR-10 | 3/32 | 5/64 | 9/16 | 13/16 | .13 |

† All 1-1/2" long.



NMR-2 to
NMR-10

HANDLES AND PARTS

| No. | Piece | Weight Ea. Lbs. | No. | Piece | Weight Ea. Lbs. |
|--------|---|-----------------|--------|---|-----------------|
| MR-51 | This 6" light weight drop-forged reversible ratchet has 1/4" female drive in head, 5/16", 1/4" and 3/16" square openings and 1/2 hex opening in handle for delicate adjustment of valve stems, etc. | .29 | NM-115 | Extension—6" long; 1/4" square drive, male and female. | .17 |
| NM-20A | Sliding T Handle—4-1/2" long; 1/4" square male drive. | .1 | MM-150 | Plug Adapter—1" long; 1/4" square and 9/32" square for driving former 9/32" drive sockets | .03 |
| B-110 | Extension—5-1/2" long; 3/8" square drive, male and female. | .23 | NM-150 | Plug Adapter—3/4" long; both ends 1/4" square male. | .02 |
| | | | BM-150 | Adapter—3/8" square male and 1/4" square male. | .03 |

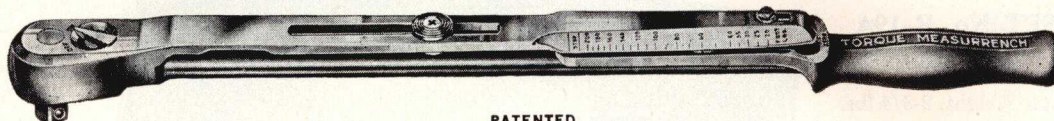
♦REGISTERED TRADE MARK

WILLIAMS' TORQUE "MEASURENCH" No. S-57

REVERSIBLE RATCHET WITH R. H. TORQUE INDICATING SIGNAL

Standard Pattern—1/2" Square Drive

Weight in Metal Case, 5.9 Lbs.



Closely limited torque application is essential in automotive, aviation and Diesel motors; also for many industrial appliances. Such fine adjustments make an efficient indicator of torque a vital necessity in modern practice. "Measurrench" solves the problem *wherever* limited and equal tension is required on nuts, bolts, studs, etc. Designed especially for use with Williams' Standard "Supersockets", but can be applied to any detachable socket having 1/2" square drive opening.

Williams' Ratchet Torque "Measurrench" is the most efficient and durable tool for torque indicating service on the market. It combines new mechanical features with Williams' standards of superior quality and design, resulting in an unusually strong, effective tool at moderate price.

Wrench may be used in two ways, as below:—
By Sight Reading—An easily read scale on the handle indicates applied tightening pressures from 20 to 200 foot-pounds.

By Sound Reading—A sharp sound signal is given for any desired torque from 35 to 200 foot-pounds, by setting the simple sound device.

Accuracy does not depend on delicate gears, levers, or dials, but upon rugged sections of high tensile steel. Right hand torque only is measured, but the action reverses for left hand turning.

Simple in design and sturdy in construction, the reversible ratchet mechanism is a highly desirable feature. The 36-tooth ratchet wheel, with

Williams' twin double-tooth, oscillating pawl provides constant engagement with TWO teeth of ratchet-gear in both ON and OFF rotation of nuts.



It makes possible the unusually short operating swing of only 1/30 of a full turn; obstruction hazards are reduced to the minimum. The wrench action is instantly reversed by a mere flip of the shifter, which is flush with the head.

The well balanced drop-forged handle, with specially designed grip, is 19-1/2" long for ample leverage; the head is exceptionally compact and free from protrusions, for easy use in close places.

Every part is made of selected alloy and high tensile steel, accurately machined and heat-treated. Chrome-plated, with entire top and sides of head and calibrated bar buffed; handle, "satin" chrome. Packed in individual metal case.

USE WILLIAMS' TORQUE "MEASURENCH"

FOR

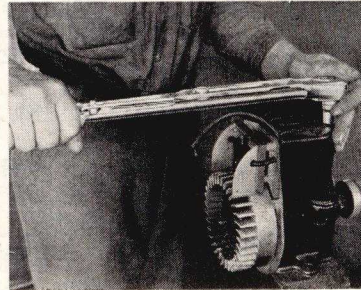
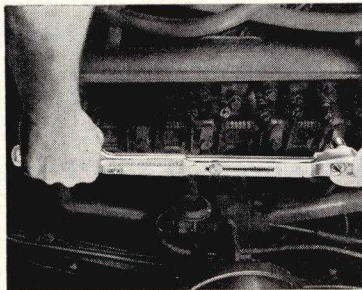
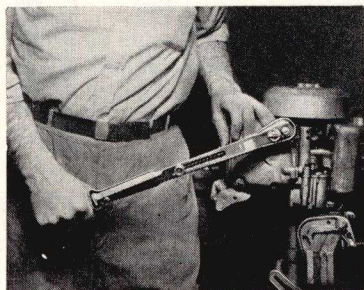
limiting torque in tightening nuts and bolts in DIE CAST ALLOY METAL PARTS.

FOR

accurately following MANUFACTURERS' SPECIFIED TENSIONS.

FOR

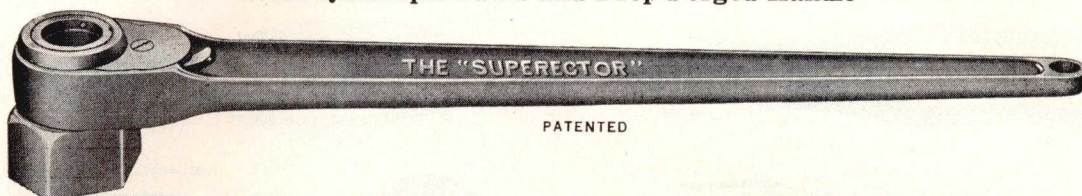
all applications which require EQUAL TENSION ON NUTS, STUDS, BOLTS, ETC.



♦REGISTERED TRADE MARK

1-52

WILLIAMS' "SUPERECTOR"
REVERSIBLE RATCHET WRENCHES
 With Quadruple Pawls and Drop-Forged Handle



Williams' "Superector" Ratchet Wrenches are built for rapid operation in the most severe service such as bridge, structural and other work requiring fast, dependable tools of rugged strength. They are instantly reversible in action. Three sizes of mechanism — E1, E2 and E3 — in five long, slim but powerful handles provide ample leverage for the hardest jobs.



HEX SOCKETS

SOCKETS have hole extending clear through their center so that nuts may be turned all the way down on any length of bolt. They are in three groups—E1, E2 and E3—to fit corresponding wrench handles, as shown in table below. Sockets in one group are not interchangeable with those in another group. All are heat-treated for maximum tough strength.

Whitworth Std. sizes on page 214.



SQUARE SOCKETS

Only Williams' "SUPERECTOR" offers all the following advantages:—

QUADRUPLE PAWLS. Instead of the usual single pawl, bearing against one gear tooth, the "Superector" provides increased bearing and strength by 2 pawls engaging 2 teeth for both ON and OFF rotation of nuts. All 4 pawls are of hardened tool steel, so designed as to provide pure crushing action on the pawls—the sturdiest construction possible, with no "back-lash."

HANDLE, or Wrench proper, is **drop-forged**—not cast—in order to utilize the extra strength afforded by the pawls.

GEAR TEETH. The "Superector" is the only line of wrenches of this type with 20 teeth in all socket gears, instead of the usual 16 teeth. Con-

sequently, all wrenches will rotate nuts with only an 18° swing of the wrench as against 22-1/2°.

SHIFTER-LEVER, when in neutral, completely disengages all pawls for easy insertion and removal of the Socket. A flip of the lever reverses the action of the wrench.

SOCKET RETAINING COLLAR has a projection on its inner surface which registers easily with a corresponding slot in the neck of the Socket. No fumbling for set screw "spots" when engaging the headless, slotted socket screws.

COVER PLATE, securely seated in the wrench head, is fastened by one screw, fully enclosing the mechanism and permitting easy removal.

FINISH. Wrenches and Sockets are finished in baked light gray enamel.

When ordering, always specify Wrenches and Sockets by number.

| WRENCHES | | | SOCKETS ONLY—Hex and Square | | | | | | | |
|--|-----------------------------|-----------------|------------------------------------|------------|---------------|---------------|---------------|--|--|----------------------------------|
| No. | Length, from center of Head | Wgt. Each, Lbs. | Nominal Opening, Size Across Flats | Number | | | | Amer. Std. HEAVY Nut (U.S.S.) Hex & Sqr. | Amer. Std. LIGHT Nut (S.A.E.) Hex Only | Amer. Std. REGLR. Nut Hex & Sqr. |
| | | | | Hex Socket | Wgt. Ea. Lbs. | Square Socket | Wgt. Ea. Lbs. | | | |
| E1 SOCKETS below fit E1-24 and E1-36 Wrenches ONLY | | | | | | | | | | |
| E1-24 | 24 | 9.3 | 1 | E1-617 | 2.6 | E1-416 | 2.6 | | | |
| | | | 1- 1/16 | E1-618 | 2.6 | E1-417 | 2.6 | 5/8 | 3/4 | 5/8 |
| E1-36 | 36 | 12.8 | 1- 1/8 | E1-619 | 2.6 | E1-418 | 2.6 | | | 3/4 |
| | | | 1- 1/4 | E1-620 | 2.5 | E1-420 | 2.6 | 3/4 | 7/8 | |
| | | | 1- 5/16 | E1-621 | 2.5 | E1-421 | 2.6 | | | 7/8 |
| | | | 1- 7/16 | E1-623 | 2.5 | E1-423 | 2.8 | 7/8 | 1 | |
| | | | 1- 1/2 | E1-624 | 2.5 | E1-424 | 2.8 | | | 1 |
| | | | 1- 5/8 | E1-626 | 2.6 | E1-426 | 2.9 | 1 | 1-1/8 | |
| | | | 1-11/16 | E1-627 | 2.6 | | | | | 1-1/8 |
| | | | 1- 3/4 | E1-628 | 2.6 | | | | | |
| | | | 1-13/16 | E1-629 | 2.8 | E1-429 | 3.3 | 1-1/8 | 1-1/4 | |
| | | | 1- 7/8 | E1-630 | 2.8 | E1-430 | 3.3 | | | 1-1/4 |
| Note: Sockets at right fit both above Wrenches. | | | 2 | E1-632 | 3.2 | E1-432 | 3.5 | 1-1/4 | 1-3/8 | |
| | | | 2- 1/16 | E1-633 | 3.2 | | | | | 1-3/8 |
| | | | 2- 3/16 | E1-635 | 3.6 | E1-435 | 4. | 1-3/8 | 1-1/2 | |
| | | | 2- 1/4 | E1-636 | 3.6 | E1-436 | 4. | | | 1-1/2 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| E2 SOCKETS below fit E2-36 and E2-48 Wrenches ONLY | | | | | | | | | | |
| E2-36 | 36 | 20.9 | 2 | E2-632 | 5.5 | E2-432 | 5.7 | 1-1/4 | 1-3/8 | |
| E2-48 | 48 | 24. | 2- 3/16 | E2-635 | 5.8 | E2-435 | 6. | 1-3/8 | 1-1/2 | |
| | | | 2- 3/8 | E2-638 | 6.3 | E2-438 | 6.5 | 1-1/2 | | |
| Note: Sockets at right fit both above Wrenches. | | | 2- 9/16 | E2-641 | 6.7 | E2-441 | 7.1 | 1-5/8 | | |
| | | | 2- 3/4 | E2-644 | 7.2 | E2-444 | 7.9 | 1-3/4 | | |
| | | | 2-15/16 | E2-647 | 8. | E2-447 | 9. | 1-7/8 | | |
| | | | 3- 1/8 | E2-650 | 9. | E2-450 | 10. | 2 | | |
| E3 SOCKETS below fit E3-48 Wrenches ONLY | | | | | | | | | | |
| E3-48 | 53 | 40.6 | 3- 1/8 | E3-650 | 14.9 | E3-450 | 16. | 2 | | |
| | | | 3- 1/2 | E3-656 | 15.6 | E3-456 | 17. | 2-1/4 | | |
| | | | 3- 7/8 | E3-662 | 16.8 | E3-462 | 18.3 | 2-1/2 | | |
| | | | 4- 1/4 | E3-668 | 17.9 | E3-468 | 19.9 | 2-3/4 | | |
| | | | 4- 5/8 | E3-674 | 18.4 | E3-474 | 22.5 | 3 | | |
| Note: Sockets at right fit the above Wrench. | | | | | | | | | | |

◆ REGISTERED TRADE MARK

"SUPERECTOR" SET
No. E1-12



Total Weight, 42 Lbs.
 12 Pieces
 In Wooden Box
 36 x 6 x 5-1/2"
 "Superector"
 Wrench E1-24
 and 11 Sockets:

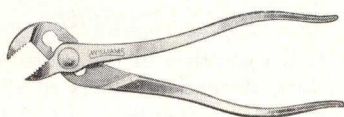
7 Hex—1-1/16, 1-1/4,
 1-7/16, 1-5/8, 1-13/16, 2
 and 2-3/16 inches.

4 Square—1-1/16, 1-1/4,
 1-7/16 and 1-5/8 inches.

WILLIAMS' PLIERS

"SUPERPLIERS"

(Slip-Joint)

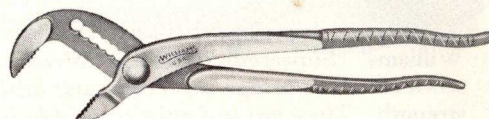


Midget No. 1519, 4-position joint opens 0 to 9/16", with jaws parallel at the most important openings. Efficient for wiring, panel, switchboard, radio, and other delicate work. Chrome-plated over nickel, faces polished.

| No. | Length | Weight Each, Lbs. |
|------|--------|-------------------|
| 1519 | 4-1/2 | .08 |

"SUPERPLIERS"

(Slip-Joint)



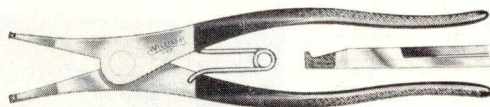
Standard No. 1520 is long and slim; 8-position joint opens 0 to 2". Diamond embossed handles provide firm hand grip. Gray satin finish, faces polished.

Heavy Duty No. 1521, 7-position slip-joint opens 0 to 2". Heavy duty construction makes this plier particularly useful in plumbing and electrical trades. Diamond embossed handles provide firm hand grip. Gray satin finish, faces polished.

| No. | Length | Weight Each, Lbs. |
|------|--------|-------------------|
| 1520 | 9-1/2 | .57 |
| 1521 | 10 | 1.6 |

LOCK RING PLIERS

For Snap Lock Rings

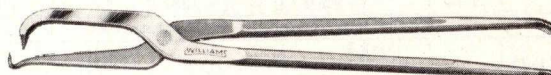


Pliers are designed for spreading "Horse Shoe" snap lock rings on automotive brakes, transmissions, differentials, pulleys, etc. Finish, gun metal blue handles with polished nose.

| No. | Length | Weight Each, Lbs. |
|------|--------|-------------------|
| 1515 | 8 | .33 |

BRAKE PLIERS

For inserting and removing springs (internal)

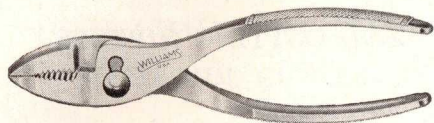


For use only on passenger cars, light and medium trucks excepting Ford "A". Gray satin finish; head faces polished.

| No. | Length | Weight Each, Lbs. |
|------|--------|-------------------|
| 1517 | 13 | .75 |

WILLIAMS' PLIERS

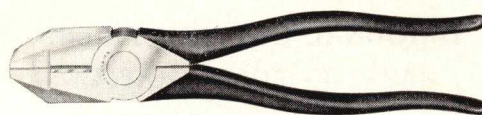
COMBINATION SLIP-JOINT PLIERS



These Combination Pliers, with 2 position slip-joints, are very efficient for general service. All are sturdy, well designed tools. Drop-forged from selected steel, with knurled handles; polished and nickel-plated.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| *5 | 5 | .27 |
| 6 | 6 | .44 |
| 8 | 8 | .53 |
| 10 | 10 | .88 |

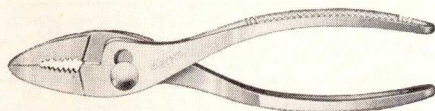
LINEMEN'S SIDE CUTTING PLIERS



These are heavy duty well-balanced pliers to meet the requirements of linemen and electricians. Surfaces of jaws are deep milled for holding and bending wire. Jaws have powerful cutters. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 206 | 6 | .43 |
| 207 | 7 | .59 |
| 208 | 8 | .96 |

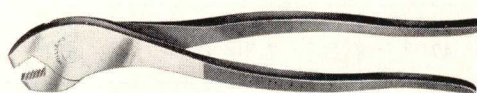
THIN NOSE COMBINATION SLIP-JOINT PLIERS



These thin nose pliers, with 2 position slip-joints, are very efficient for close-quarters work. They are sturdy, well designed tools. Drop-forged from selected steel, knurled handles; polished and nickel-plated.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 16 | 6 | .36 |

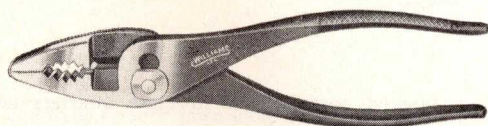
BATTERY PLIERS



Offset jaws allow ample hand clearance for battery terminal work. Milled teeth assure positive grip. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 67 | 7 | .48 |

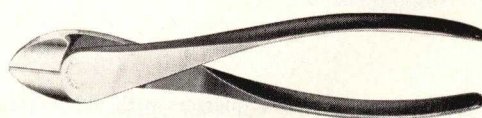
COMBINATION SLIP-JOINT PLIERS WITH SIDE CUTTER



These sturdy combination pliers have keen side cutters and a flush head rivet on one side. Drop-forged from selected steel, with knurled handles; faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 370 | 7 | .53 |

HIGH LEVERAGE DIAGONAL CUTTING PLIERS



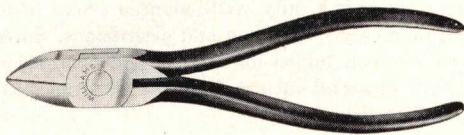
Added leverage for easier and more powerful cutting. They are particularly adapted to heavy duty work. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 57 | 7 | .58 |

*DISCONTINUED: will supply until stock is exhausted.

WILLIAMS' PLIERS

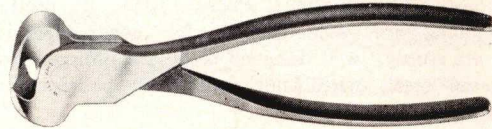
DIAGONAL CUTTING PLIERS



Mechanics and electricians find many uses for these rugged tools. Cutting edges are made for lasting service. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 46 | 6 | .35 |
| 47 | 7 | .52 |

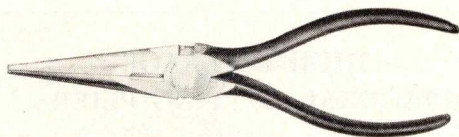
END CUTTING NIPPERS



These powerful, easy cutting nippers have carefully sharpened edges. Wide throat provides ample clearance. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 166 | 6 | .65 |
| 167 | 7 | .75 |

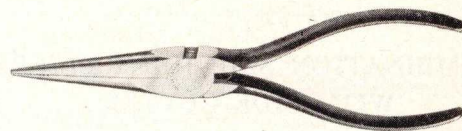
**LONG CHAIN NOSE PLIERS
WITH SIDE CUTTER**



Long, thin nose for close quarters with side-cutting jaws. Ideal for ignition and electrical work, etc. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 76 | 6 | .33 |
| 77 | 7 | .42 |

**LONG CHAIN NOSE PLIERS
WITHOUT SIDE CUTTER**

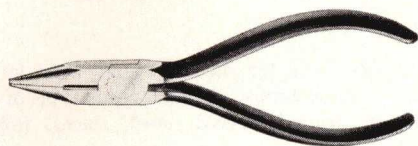


Long, tapered nose is ideal in close quarters encountered in ignition and electrical work. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 86 | 6 | .31 |
| 87 | 7 | .42 |

WILLIAMS' PLIERS

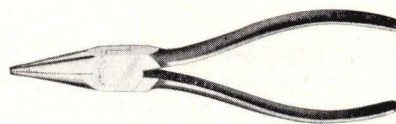
**SHORT CHAIN NOSE PLIERS
WITH SIDE CUTTER**



For fine mechanical work such as done in the jewelry, optical and electronics fields. Jaws have side cutters. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 95 | 5 | .23 |

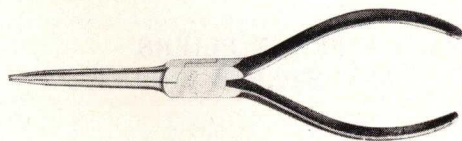
**SHORT CHAIN NOSE PLIERS
WITHOUT SIDE CUTTERS**



For fine mechanical work such as done in the jewelry, optical and electronics trades. No cutter in jaws. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 105 | 5 | .23 |

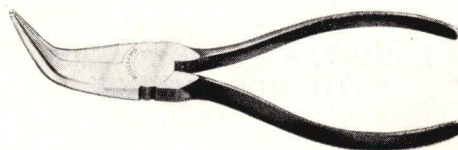
LONG NEEDLE NOSE PLIERS



The long slender jaws have strong gripping ability. Jaws will not become distorted in normal use. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 116 | 6 | .21 |

BENT NEEDLE NOSE PLIERS

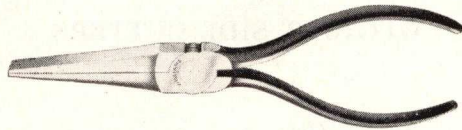


The long slender jaws are bent to reach around or under obstructions. Jaws have strong gripping ability. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 126 | 6 | .21 |

WILLIAMS' PLIERS

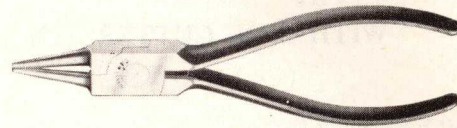
DUCK BILL PLIERS
(Flat Jaws)



Used in highly inaccessible places where there is not space for ordinary pliers or fingers. Strong jaws have firm grip. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 146 | 6 | .42 |

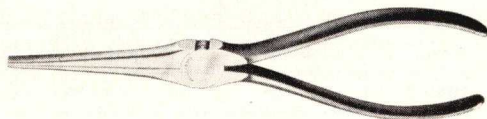
ROUND NOSE PLIERS



Extensively used for flat or round wire forming. Nose and jaws are amply strong for this type of work. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 134 | 4 | .13 |
| 136 | 6 | .37 |

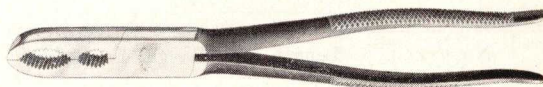
EXTRA LONG DUCK BILL PLIERS



Widely used by textile weavers, telephone maintenance men and punch press operators for inserting and removing work. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 157 | 7 | .37 |

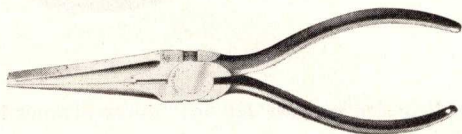
GAS AND BURNER PLIERS



These pliers have larger capacities than ordinary pliers of this type. Handles are designed for comfortable grip. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 178 | 8 | .81 |
| 180 | 10 | 1.3 |

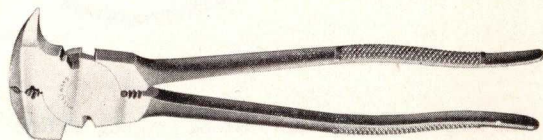
LONG FLAT NOSE PLIERS WITH SIDE CUTTER



Side cutting jaws have long gripping surfaces. In addition to auto radiator repair work these pliers are widely used in textile mills on certain types of knitting machines. Drop-forged from selected steel, faces polished.

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 196 | 6 | .33 |

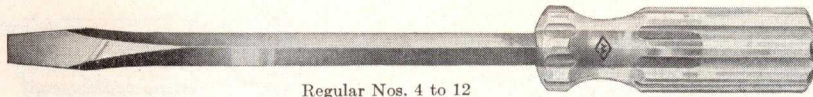
FENCE PLIERS AND STAPLE PULLER



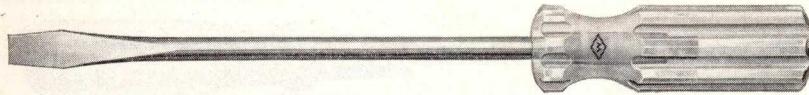
For maintaining and installing wire fence on metal or wood posts. Head has hammer on one jaw, starting and pulling point on the other. Pliers also have two wire cutters, staple puller and wire splicer in nose, wire stretcher and lug lifter. Drop-forged from selected steel

| No. | Length | Weight Each, Lbs. |
|-----|--------|-------------------|
| 190 | 10 | 1.5 |

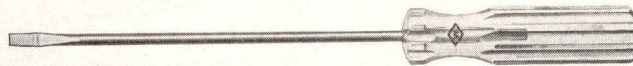
WILLIAMS' SCREW DRIVERS



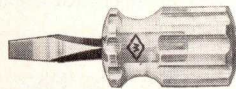
Regular Nos. 4 to 12



Regular Nos. 24 to 32



Electricians' Nos. 43 to 50



Regular Stubby No. 62



Pocket No. 52

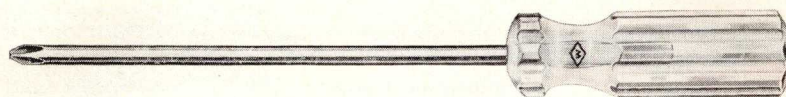
Williams' Regular, Electricians', Pocket and Stubby (adjusting) Screw Drivers are all fitted with handles of a tough transparent composition, an insulator of electricity. Fluted for sure, comfortable grip. The blades, hardened and tempered throughout their entire length, are solidly anchored in the handles.

Regular patterns are available with either square or round blades. Electricians' have round blades and the Stubby a square blade. The Pocket has round blade and is fitted with pocket clip which is secured in a grooved recess, as illustrated.

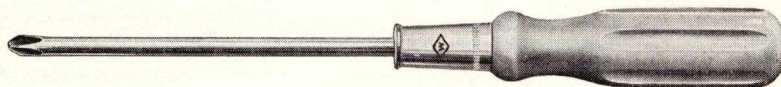
All Screw Drivers packed 6 in Cardboard Box, excepting No. 52, 12 per box.

| REGULAR — SQUARE BLADE — COMPOSITION HANDLE | | | | |
|---|--------------|------------|-----------|------------------|
| No. | Blade Length | Stock Size | Tip Width | Weight Ea., Lbs. |
| 4 | 4 | 1/4 | 5/16 | .19 |
| 6 | 6 | 5/16 | 5/16 | .38 |
| 6B | 6 | 3/8 | 3/8 | .5 |
| 8 | 8 | 3/8 | 3/8 | .59 |
| 12 | 12 | 3/8 | 3/8 | .75 |
| REGULAR — ROUND BLADE — COMPOSITION HANDLE | | | | |
| 24 | 4 | 1/4 | 1/4 | .19 |
| 26 | 6 | 5/16 | 5/16 | .33 |
| 28 | 8 | 3/8 | 3/8 | .53 |
| 32 | 12 | 3/8 | 3/8 | .66 |
| ELECTRICIANS' — ROUND BLADE — COMPOSITION HANDLE | | | | |
| 43 | 3 | 3/16 | 3/16 | .09 |
| 46 | 6 | 3/16 | 3/16 | .14 |
| 50 | 10 | 3/16 | 3/16 | .17 |
| POCKET (with Clip) — ROUND BLADE — COMPOSITION HANDLE | | | | |
| 52 | 2-1/4 | 1/8 | 1/8 | .03 |
| REGULAR STUBBY (Adjusting) — COMPOSITION HANDLE | | | | |
| 62 | 1-1/2 | 1/4 | 5/16 | .14 |

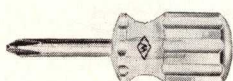
WILLIAMS' SCREW DRIVERS



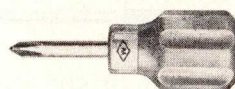
Phillips Nos. TP-1 to TP-4



Phillips Nos. WP-1 to WP-4



Phillips Stubby No. TP-62



Phillips Stubby No. WP-62

FOR PHILLIPS SCREWS

These Williams' Screw Drivers, will fit the entire range of Phillips recessed-head screws. These, and the Phillips Stubby (adjusting), Screw Driver have round Selected Alloy Steel blades, hardened and tempered, that are securely anchored in handles made of wood or a tough transparent composition which is an insulator of electricity. Fluted for sure, comfortable grip.

All Screw Drivers packed 6 in cardboard box.

PHILLIPS — COMPOSITION OR WOOD HANDLES

| No. With Composition Handles | No. With Wood Handles | Fits Screws No. | Blade Length | Stock Size | Weight, Ea., Lbs. |
|------------------------------------|-----------------------------|--------------------|-----------------|---------------|----------------------|
| TP-1 | WP-1 | 4 and Smaller | 3 | 9/64 | .06 |
| TP-2 | WP-2 | 5 to 9 incl. | 4 | 1/4 | .19 |
| TP-3 | WP-3 | 10 to 16 incl. | 6 | 5/16 | .31 |
| TP-4 | WP-4 | 18 and larger | 8 | 3/8 | .53 |

PHILLIPS STUBBY (Adjusting) — COMPOSITION OR WOOD HANDLES

| No. With Composition Handles | No. With Wood Handles | Fits Screws No. | Blade Length | Stock Size | Weight, Ea., Lbs. |
|------------------------------------|-----------------------------|--------------------|-----------------|---------------|----------------------|
| TP-62 | WP-62 | 5 to 9 incl. | 1-1/2 | 1/4 | .09 |

1-52

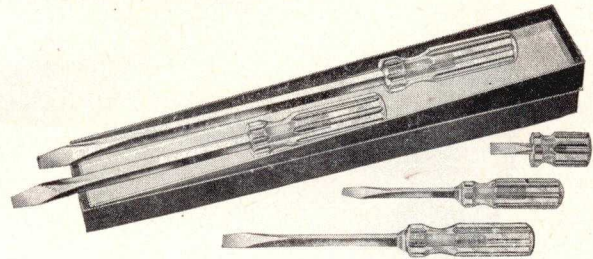
WILLIAMS' SCREW DRIVER SETS

SET No. 1-D

Complete in Cardboard Box
Weight, 2 lbs.

CONTENTS

1 each Nos. 4, 6, 8, 12 and 62 Regular Williams' Screw Drivers with square blades and composition handles.

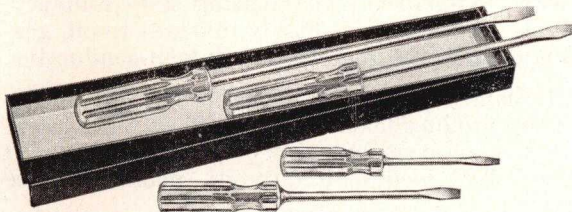


SET No. 2-D

Complete in Cardboard Box
Weight, 1-5/8 lbs.

CONTENTS

1 Each Nos. 24, 26, 28 and 32 Regular Williams' Screw Drivers with round blades and composition handles.

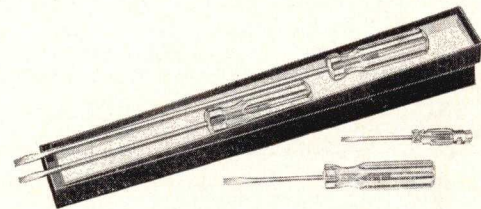


SET No. 3-D

Complete in Cardboard Box
Weight, 1/2 lb.

CONTENTS

1 each Nos. 43, 46, 50 and 52 Williams' Electricians' Screw Drivers with composition handles.

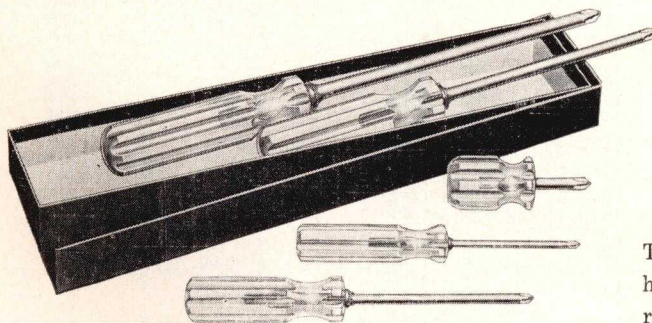


SET No. TP-5

Complete in Cardboard Box
Weight, 1-1/8 lbs.

CONTENTS

1 each Nos. TP-1, TP-2, TP-3, TP-4 and TP-62 Phillips Screw Drivers with composition handles. This combination covers the entire range of Phillips Screws.

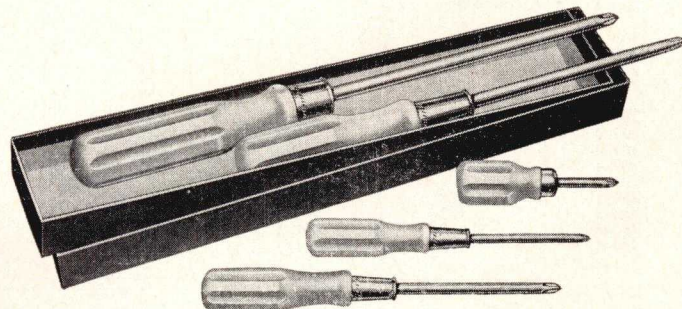


SET No. WP-5

Complete in Cardboard Box
Weight, 1-1/8 lbs.

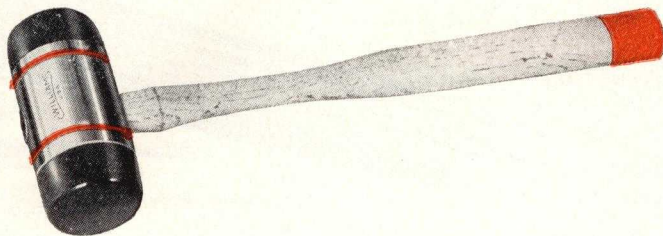
CONTENTS

1 each Nos. WP-1, WP-2, WP-3, WP-4 and WP-62 Phillips Screw Drivers with hard wood handles. This combination covers the entire range of Phillips Screws.



WILLIAMS' SOFT-FACE HAMMERS

With "Nuplaflex" and Nylon Interchangeable Tips



Williams' Soft-Face Hammers are available with "Nuplaflex", an amazing slow-resiliency, self-healing material, and Nylon interchangeable tips. "Nuplaflex" is highly resistant to oil, gasoline, common industrial solvents and acids. It is non-explosive and electrically non-conductive.

Williams' Soft-Face Hammers equipped with "Nuplaflex" tips are safety tools which minimize the danger of fire, explosion and flying particles. They produce maximum impact with minimum effort—no sting or vibration and minimize marring or damage to painted, polished or plated surfaces. "Nuplaflex" is available in three hardnesses—soft, medium and tough—making it more versatile than conventional type soft face hammers.

"Nuplok" (Pat. Pending) tip locking device is used throughout. All hammers have selected hickory handles. Series 100, 150, 153, 200, 250 and 300 have die-cast aluminum alloy heads with bright finish. Series 105, 155, 205, 207, 255 and 305 have die-cast zinc-alloy heads with bright finish.

SOFT-FACE HAMMERS COMPLETE WITH TIPS

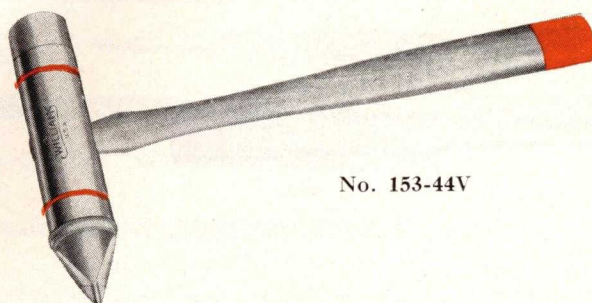
| No. | Head Diameter Inches | Head Length, Inches | Handle Length, Inches | Weight | Kind of Tip | Minimum Quantity Package |
|---------|----------------------|---------------------|-----------------------|-----------|-------------|--------------------------|
| 100-1 | 1 | 3-1/2 | 11-3/8 | 5 oz. | Soft | 6 |
| 100-2 | 1 | 3-1/2 | 11-3/8 | 5 oz. | Medium | 6 |
| 100-3 | 1 | 3-1/2 | 11-3/8 | 5 oz. | Tough | 6 |
| 100-4 | 1 | 3-1/2 | 11-3/8 | 5 oz. | Nylon | 6 |
| 105-1 | 1 | 3-1/2 | 11-3/8 | 8 oz. | Soft | 6 |
| 105-2 | 1 | 3-1/2 | 11-3/8 | 8 oz. | Medium | 6 |
| 105-3 | 1 | 3-1/2 | 11-3/8 | 8 oz. | Tough | 6 |
| 105-4 | 1 | 3-1/2 | 11-3/8 | 8 oz. | Nylon | 6 |
| 150-1 | 1-1/2 | 4-3/8 | 13 | 3/4 lb. | Soft | 6 |
| 150-2 | 1-1/2 | 4-3/8 | 13 | 3/4 lb. | Medium | 6 |
| 150-3 | 1-1/2 | 4-3/8 | 13 | 3/4 lb. | Tough | 6 |
| 150-4 | 1-1/2 | 4-3/8 | 13 | 3/4 lb. | Nylon | 6 |
| 153-1 | 1-1/2 | 7 | 13 | 1-1/8 lb. | Soft | 6 |
| 153-2 | 1-1/2 | 7 | 13 | 1-1/8 lb. | Medium | 6 |
| 153-3 | 1-1/2 | 7 | 13 | 1-1/8 lb. | Tough | 6 |
| 153-4 | 1-1/2 | 7 | 13 | 1-1/8 lb. | Nylon | 6 |
| 153-44V | 1-1/2 | 7 | 13 | 1-1/8 lb. | *Nylon | 6 |
| 155-1 | 1-1/2 | 4-3/8 | 13 | 1-1/4 lb. | Soft | 6 |
| 155-2 | 1-1/2 | 4-3/8 | 13 | 1-1/4 lb. | Medium | 6 |
| 155-3 | 1-1/2 | 4-3/8 | 13 | 1-1/4 lb. | Tough | 6 |
| 155-4 | 1-1/2 | 4-3/8 | 13 | 1-1/4 lb. | Nylon | 6 |
| 200-1 | 2 | 5 | 13 | 1-1/4 lb. | Soft | 6 |
| 200-2 | 2 | 5 | 13 | 1-1/4 lb. | Medium | 6 |
| 200-3 | 2 | 5 | 13 | 1-1/4 lb. | Tough | 6 |
| 200-4 | 2 | 5 | 13 | 1-1/4 lb. | Nylon | 6 |
| 205-1 | 2 | 5 | 13 | 2 lb. | Soft | 6 |
| 205-2 | 2 | 5 | 13 | 2 lb. | Medium | 6 |
| 205-3 | 2 | 5 | 13 | 2 lb. | Tough | 6 |
| 205-4 | 2 | 5 | 13 | 2 lb. | Nylon | 6 |
| 207-1 | 2 | 6-3/8 | 15 | 3 lb. | Soft | 4 |
| 207-2 | 2 | 6-3/8 | 15 | 3 lb. | Medium | 4 |
| 207-3 | 2 | 6-3/8 | 15 | 3 lb. | Tough | 4 |
| 207-4 | 2 | 6-3/8 | 15 | 3 lb. | Nylon | 4 |
| 250-1 | 2-1/2 | 6-1/4 | 15 | 2 lb. | Soft | 4 |
| 250-2 | 2-1/2 | 6-1/4 | 15 | 2 lb. | Medium | 4 |
| 250-3 | 2-1/2 | 6-1/4 | 15 | 2 lb. | Tough | 4 |
| 250-4 | 2-1/2 | 6-1/4 | 15 | 2 lb. | Nylon | 4 |

* Hammer furnished with one regular round and one Cross Peen Tip.

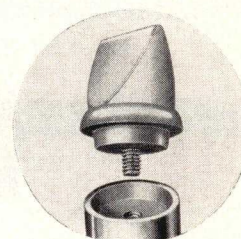
1-52

WILLIAMS' SOFT-FACE HAMMERS

With "Nuplaflex" and Nylon Interchangeable Tips



No. 153-44V



This new Nylon Tipped Cross Peen Hammer No. 153-44V is specially designed for peening work in aircraft and automotive assembly and sheet metal work. It has been extremely successful under rigorous tests. The long, light-weight head has one wedge-pointed Cross Peen Nylon tip, No. 15-4V, and one regular round Nylon tip, No. 15-4. Williams Nylon Cross Peen Tips may be located in either a horizontal or vertical position in relation to the handle of the hammer.

Nylon Cross Peen Tip No. 15-4V will also fit in Williams Soft-Face Hammers, series 150 and 155. Regular 1-1/2" "Nuplaflex" Tips, Nos. 15-1 to 15-3, as well as Nylon Tip No. 15-4, will fit this new Hammer No. 153. Hammer has a selected hickory handle and die-cast aluminum alloy head with bright finish.

SOFT-FACE HAMMERS COMPLETE WITH TIPS — (Continued)

| No. | Head Diameter Inches | Head Length, Inches | Handle Length, Inches | Weight | Kind of Tip | Minimum Quantity Package |
|--------|----------------------|---------------------|-----------------------|-----------|-------------|--------------------------|
| 255-1 | 2-1/2 | 6-1/4 | 13 | 4 lb. | Soft | 4 |
| 255-2 | 2-1/2 | 6-1/4 | 13 | 4 lb. | Medium | 4 |
| 255-3 | 2-1/2 | 6-1/4 | 13 | 4 lb. | Tough | 4 |
| 255-4 | 2-1/2 | 6-1/4 | 13 | 4 lb. | Nylon | 4 |
| 300-1 | 3 | 7 | 14 | 3-1/2 lb. | Soft | 2 |
| 300-2 | 3 | 7 | 14 | 3-1/2 lb. | Medium | 2 |
| 300-3 | 3 | 7 | 14 | 3-1/2 lb. | Tough | 2 |
| 300-4 | 3 | 7 | 14 | 3-1/2 lb. | Nylon | 2 |
| 305-1 | 3 | 7 | 14 | 6 lb. | Soft | 2 |
| 305-2 | 3 | 7 | 14 | 6 lb. | Medium | 2 |
| 305-3 | 3 | 7 | 14 | 6 lb. | Tough | 2 |
| 305-4 | 3 | 7 | 14 | 6 lb. | Nylon | 2 |
| *307-2 | 3 | 7-7/8 | 28 | 9 lb. | Medium | 1 |
| *307-3 | 3 | 7-7/8 | 28 | 9 lb. | Tough | 1 |
| *307-4 | 3 | 7-7/8 | 28 | 9 lb. | Nylon | 1 |
| *308-2 | 3 | 9 | 36 | 12 lb. | Medium | 1 |
| *308-3 | 3 | 9 | 36 | 12 lb. | Tough | 1 |
| *308-4 | 3 | 9 | 36 | 12 lb. | Nylon | 1 |

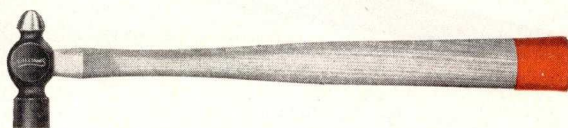
EXTRA "NUPLAFLEX" AND NYLON TIPS

| No. | Head Diam. Inches | Kind of Tip | Minimum Quantity Pkg. | Weight Each, Lbs. | No. | Head Diam. Inches | Kind of Tip | Minimum Quantity Pkg. | Weight Each, Lbs. |
|-------|-------------------|-------------|-----------------------|-------------------|------|-------------------|-------------|-----------------------|-------------------|
| 10-1 | 1 | Soft | 12 | .05 | 20-3 | 2 | Tough | 4 | .27 |
| 10-2 | 1 | Medium | 12 | .05 | 20-4 | 2 | Nylon | 4 | .27 |
| 10-3 | 1 | Tough | 12 | .05 | | | | | |
| 10-4 | 1 | Nylon | 12 | .05 | | | | | |
| 15-1 | 1-1/2 | Soft | 6 | .14 | 25-1 | 2-1/2 | Soft | 2 | .44 |
| 15-2 | 1-1/2 | Medium | 6 | .14 | 25-2 | 2-1/2 | Medium | 2 | .44 |
| 15-3 | 1-1/2 | Tough | 6 | .14 | 25-3 | 2-1/2 | Tough | 2 | .44 |
| 15-4 | 1-1/2 | Nylon | 6 | .14 | 25-4 | 2-1/2 | Nylon | 2 | .44 |
| 15-4V | 1-1/2 | †Nylon | 6 | .14 | | | | | |
| 20-1 | 2 | Soft | 4 | .27 | 30-1 | 3 | Soft | 2 | .66 |
| 20-2 | 2 | Medium | 4 | .27 | 30-2 | 3 | Medium | 2 | .66 |
| | | | | | 30-3 | 3 | Tough | 2 | .66 |
| | | | | | 30-4 | 3 | Nylon | 2 | .66 |

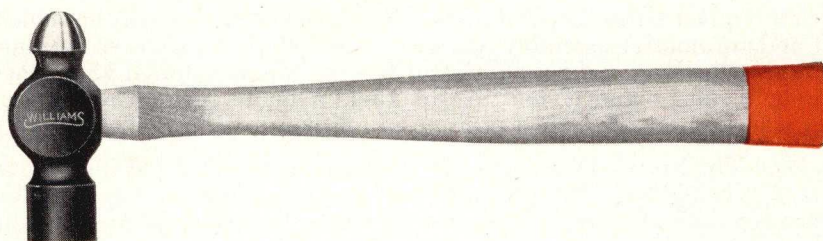
* Head made of steel with rust proof black finish.

† Cross Peen Tip.

WILLIAMS' MACHINISTS' BALL PEIN HAMMERS



Nos. 7-0 to 2-0



Nos. 0 to 6

Williams' Ball Pein Hammers are exceptionally well balanced. They are drop-forged from specially selected steel and carefully heat-treated for uniform, dependable strength and hardness. They are built to withstand severe usage.

Handles are made from second growth white hickory and clear lacquered. Each handle is carefully fitted and permanently wedged into the head.

| No. | Length | Weight |
|-----|--------|------------|
| 7-0 | 9-3/4 | 2 oz. |
| 5-0 | 9-3/4 | 1/4 lb. |
| 3-0 | 11-1/2 | 1/2 lb. |
| 2-0 | 13-1/2 | 3/4 lb. |
| 0 | 14 | 1 lb. |
| 2 | 14-1/2 | 1-1/2 lbs. |
| 4 | 15-1/2 | 2 lbs |
| 6 | 16 | 2-1/2 lbs |

DROP-FORGINGS AND **WILLIAMS** DROP-FORGED TOOLS

WILLIAMS' PUNCHES and CHISELS



Solid
Nos. P-13, P-14



Pin
Nos. P-4 to P-8



Prick, No. P-30

Center, No. P-40



Long Taper, Nos. P-25, P-26

Williams' Punches are forged from high grade octagon alloy steel, properly hardened and tempered to stand up under the most severe service. Body finished in black, with the taper and head full polished. Packed 6 in cardboard box.

| No. | Point Diam. | Stock Size | Length | Wgt., Ea. |
|---------------------------|-------------|------------|--------|-----------|
| PIN PUNCHES | | | | |
| P-4 | 1/8 | 3/8 | 6 | .16 |
| P-6 | 3/16 | 1/2 | 6 | .25 |
| P-8 | 1/4 | 5/8 | 8 | .53 |
| SOLID PUNCHES | | | | |
| P-13 | 3/32 | 1/2 | 6 | .28 |
| P-14 | 1/8 | 1/2 | 8 | .41 |
| LONG TAPER PUNCHES | | | | |
| P-25 | 5/32 | 3/8 | 9 | .22 |
| P-26 | 3/16 | 1/2 | 10 | .41 |
| PRICK PUNCH | | | | |
| P-30 | | 3/8 | 5 | .13 |
| CENTER PUNCH | | | | |
| P-40 | | 3/8 | 5 | .16 |



Cold, Nos. C-8 to C-36



Rivet Buster No. C-422

COLD, or FLAT CHISELS

Williams' Chisels of high grade octagon alloy steel, are carefully forged, hardened and tempered. Ample hard for work on tempered material, yet soft enough to minimize chipping and to permit resharpening with a file. Body finished in black with full polished bit and head. Packed 6 in cardboard box, excepting No. C-36, 3 in a box.

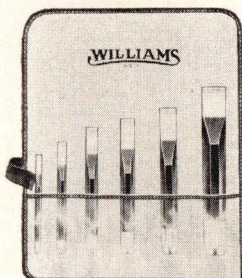
RIVET BUSTER

Designed especially for cutting off hardened rivet heads. A great time saver when used for this purpose, instead of the ordinary chisel. Packed 3 in a box.

| No. | Width of Cut | Stock Size | Length | Wgt., Ea. |
|------------------------------|--------------|------------|--------|-----------|
| COLD, or FLAT CHISELS | | | | |
| C-8 | 1/4 | 1/4 | 4 3/4 | .06 |
| C-12 | 3/8 | 3/8 | 5 1/2 | .16 |
| C-16 | 1/2 | 1/2 | 6 | .31 |
| C-20 | 5/8 | 5/8 | 6 1/2 | .5 |
| C-24 | 3/4 | 3/4 | 7 | .78 |
| C-36 | 1 1/8 | 1 | 8 | 1.6 |
| RIVET BUSTER | | | | |
| C-422 | 11/16 | 3/4 | 12 | 1.4 |

WILLIAMS' PUNCH and CHISEL SETS

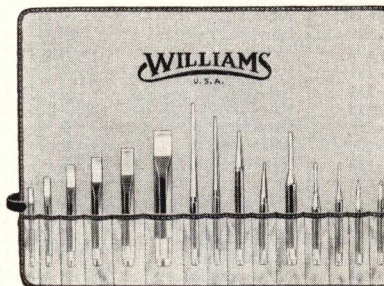
CHISEL SET No. C-6



In Leatherette Roll
In Cardboard Box
Weight, 4.3 Lbs.

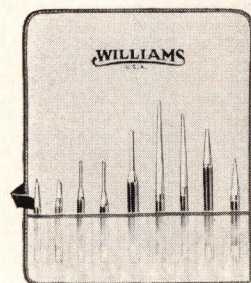
This compact chisel set contains six Cold or Flat Chisels 1/4", 3/8", 1/2", 5/8", 3/4" and 1-1/8" wide.

PUNCH and CHISEL SET No. PC-15



In Leatherette Roll
In Cardboard Box
Weight, 7.2 Lbs.

PUNCH SET No. P-9



In Leatherette Roll
In Cardboard Box
Weight, 3 Lbs.

This handy punch set contains three Pin Punches with 1/8", 3/16" and 1/4" points; two Solid Punches with 3/32" and 1/8" points; two long Taper Punches with 5/32" and 3/16" points; one Prick Punch and one Center Punch, each 5" long.

This combination set contains a complete assortment of Williams' Punches and Chisels. Set contains six Cold or Flat Chisels 1/4" to 1-1/8" wide; three Pin Punches with 1/8", 3/16" and 1/4" points; two Solid Punches with 3/32" and 1/8" points; two Long Taper Punches with 5/32" and 3/16" points; one Prick Punch and one Center Punch, each 5" long.

DROP-FORGINGS AND WILLIAMS DROP-FORGED TOOLS

WILLIAMS' TOOL DISPLAY BOARDS

(24 x 30 Inches)

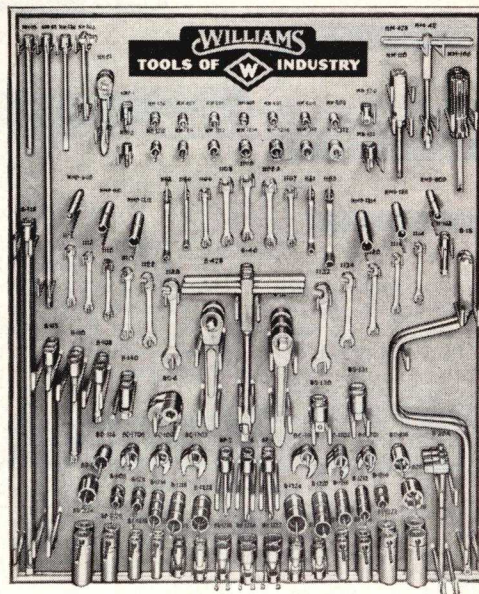
Made of
Selected 3/4" Plywood

Each Panel
Measures 24" x 30"

Trimmed With
Chrome Molding

Easy-to-Read
Numbers

Hooks are
Cadmium Plated



Finished in
Bright Williams' Orange

Individually Packed
in Strong Cartons

Each Display
Holds Complete Selection

Coordinate
Stock and Display

Create More Sales
and Greater Profits

No. 101

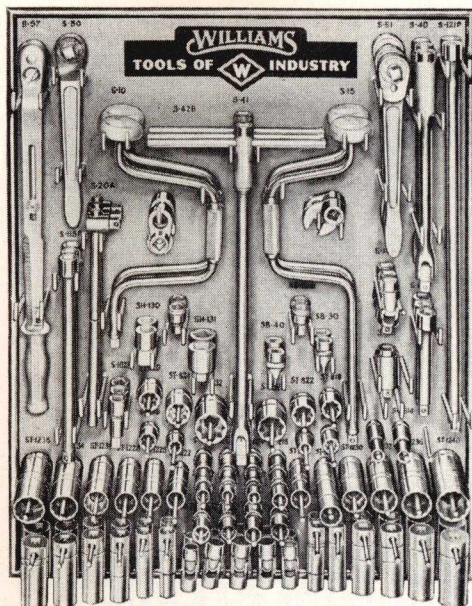
Weight, Board Only — 22 lbs.

Weight, Tools Only — 23 lbs.

CONTENTS

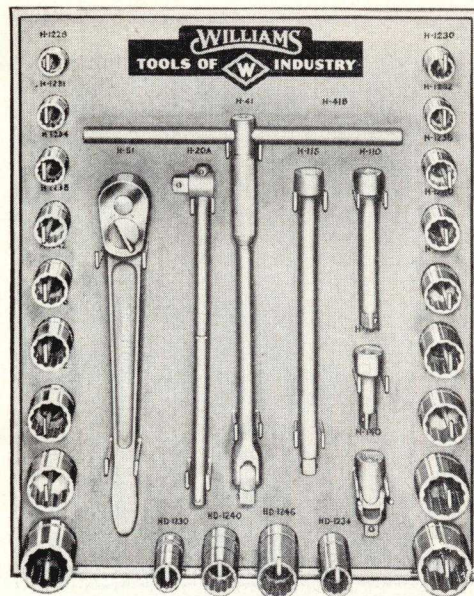
| Quan. | No. | Description | Quan. | No. | Description | Quan. | No. | Description |
|-------|----------|------------------------------|-------|--------|--------------------------|-------|---------|-------------------------|
| 2 | NM-20A | Sliding T. | 3 | 1107 | Open End Midget. . . | 2 | BC-6 | Adj. Crowfoot. |
| 2 | NM-42 | Flex Handle. | 3 | 1108 | " " " " " " " " " " " " | 2 | B-608 | 1/4" Socket |
| 2 | NM-42B | Bar. | 3 | 1108A | " " " " " " " " " " " " | 2 | B-1210 | 5/16" Socket |
| 2 | NM-51 | Ratchet. | 3 | 1109 | " " " " " " " " " " " " | 2 | B-1211 | 11/32" Socket |
| 2 | NM-102 | Extension. | 3 | 1112 | " " " " " " " " " " " " | 2 | B-1212 | 3/8" Socket |
| 2 | NM-106 | Extension. | 3 | 1113 | " " " " " " " " " " " " | 3 | B-1214 | 7/16" Socket |
| 2 | NM-110 | Ext. Driver. | 3 | 1114 | " " " " " " " " " " " " | 3 | B-1216 | 1/2" Socket |
| 2 | NM-115 | Extension. | 3 | 1115 | " " " " " " " " " " " " | 3 | B-1218 | 9/16" Socket |
| 2 | NM-116 | Extension. | 3 | 1116 | " " " " " " " " " " " " | 3 | B-1220 | 5/8" Socket |
| 2 | NM-126 | Screw Driver. | 3 | 1118 | " " " " " " " " " " " " | 2 | B-1222 | 11/16" Socket |
| 2 | MB-130 | Adapter. | 3 | 1120 | " " " " " " " " " " " " | 2 | B-1224 | 3/4" Socket |
| 2 | MB-131 | Adapter. | 3 | 1122 | " " " " " " " " " " " " | 2 | BU-1212 | 3/8" Universal. |
| 2 | NMP-1 | Phillips Attachment. | 3 | 1124 | " " " " " " " " " " " " | 2 | BU-1214 | 7/16" " " " " " " |
| 2 | NMP-2 | Phillips Attachment. | 3 | 1128 | " " " " " " " " " " " " | 2 | BU-1216 | 1/2" " " " " " " |
| 2 | NM-406 | 3/16" Socket | 3 | 1132 | " " " " " " " " " " " " | 2 | BU-1218 | 9/16" " " " " " " |
| 2 | NM-407 | 7/32" Socket | 3 | 1150 | Midget Box. | 2 | BU-1220 | 5/8" " " " " " " |
| 2 | NM-408 | 1/4" Socket | 3 | 1151 | Midget Box. | 2 | BU-1222 | 11/16" " " " " " " |
| 2 | NM-810 | 5/16" Socket | 3 | 1152 | Midget Box. | 2 | BU-1224 | 3/4" " " " " " " |
| 2 | NM-812 | 3/8" Socket | 3 | 1153 | Midget Box. | 2 | BC-1700 | 3/8" Crowfoot. |
| 2 | NM-606 | 3/16" Socket | 2 | B-15 | Speeder. | 2 | BC-1701 | 7/16" " " " " " " |
| 2 | NM-607 | 7/32" Socket | 2 | B-20A | Sliding T Handle . . . | 2 | BC-1001 | 1/2" " " " " " " |
| 2 | NM-608 | 1/4" Socket | 2 | B-40 | Flex. Handle. | 2 | BC-1702 | 9/16" " " " " " " |
| 2 | NM-609 | 9/32" Socket | 2 | B-42B | Bar. | 2 | BC-1703 | 5/8" " " " " " " |
| 2 | NM-1210 | 5/16" Socket | 2 | B-50 | Ratchet. | 2 | BC-1003 | 11/16" " " " " " " |
| 2 | NM-1211 | 11/32" Socket | 1 | B-51 | Rev. Ratchet. | 2 | BD-1212 | 3/8" Deep Socket . . . |
| 2 | NM-1212 | 3/8" Socket | 3 | B-108 | Extension. | 2 | BD-1214 | 7/16" " " " " " " |
| 2 | NM-1214 | 7/16" Socket | 2 | B-110 | Extension. | 2 | BD-1216 | 1/2" " " " " " " |
| 2 | NM-1216 | 1/2" Socket | 2 | B-115 | Extension. | 2 | BD-1218 | 9/16" " " " " " " |
| 2 | NMD-608 | 1/4" Socket | 2 | B-118 | Extension. | 2 | BD-1220 | 5/8" " " " " " " |
| 2 | NMD-609 | 9/32" Socket | 1 | B-140 | Adapter. | 2 | BD-1222 | 11/16" " " " " " " |
| 2 | NMD-1210 | 5/16" Socket | 2 | BS-130 | Universal Joint. | 2 | BD-1224 | 3/4" " " " " " " |
| 2 | NMD-1211 | 11/32" Socket | 2 | BS-131 | Adapter. | 2 | BD-1226 | 13/16" " " " " " " |
| 2 | NMD-1212 | 3/8" Socket | 2 | BP-2 | Phillips Attach. | 1 | BD-814 | 7/16" Square Deep . |
| 2 | NMD-1214 | 7/16" Socket | 2 | BP-3 | Phillips Attach. | 1 | BD-816 | 1/2" " " " " " " |
| 3 | 1106 | Open End Midget. | 2 | BP-4 | Phillips Attach. | 1 | BD-818 | 9/16" " " " " " " |
| | | | | | | 1 | BD-820 | 5/8" " " " " " " |

WILLIAMS' TOOL DISPLAY BOARDS
(24 x 30 Inches)



No. 102

Weight, Board Only—24 lbs.
Weight, Tools Only—61 lbs.



No. 103

Weight, Board Only—19 lbs.
Weight, Tools Only—44.4 lbs.

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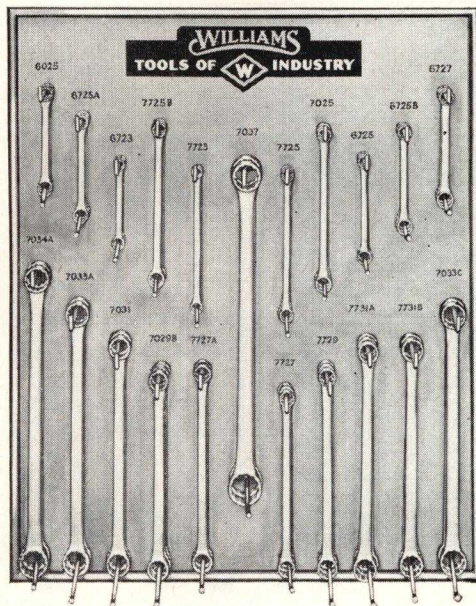
| Qa. | No. | Description | Qa. | No. | Description |
|-----|---------|--------------------|-----|----------|------------------|
| 1 | S-10 | Speeder..... | 2 | ST-1228 | 7/8" 12 Pt. Skt. |
| 1 | S-15 | Speeder..... | 2 | ST-1230 | 15/16" " " |
| 2 | S-20A | Sliding T. Handle | 2 | ST-1231 | 31/32" " " |
| 2 | SB-30 | Screw Dr. Att.... | 2 | ST-1232 | 1" " " |
| 2 | SB-40 | Screw Dr. Att.... | 2 | ST-1234 | 1-1/16" " " |
| 2 | S-40 | Flex. Handle.... | 2 | ST-1236 | 1-1/8" " " |
| 2 | S-41 | Flex. Handle.... | 2 | ST-1238 | 1-3/16" " " |
| 2 | S-42B | Sliding Bar..... | 2 | ST-1240 | 1-1/4" " " |
| 1 | S-50 | Ratchet..... | 1 | ST-810 | 5/16" 8 Pt. Skt. |
| 3 | S-51 | Rev. Ratchet.... | 1 | ST-812 | 3/8" " " |
| 2 | S-55 | Ratchet Adapter.. | 1 | ST-814 | 7/16" " " |
| 1 | S-57 | Torque Wrench... | 1 | ST-816 | 1/2" " " |
| 2 | S-60B | Stud Remover... | 1 | ST-818 | 9/16" " " |
| 2 | S-102P | Extension..... | 1 | ST-820 | 5/8" " " |
| 2 | S-110P | Extension..... | 1 | ST-822 | 11/16" " " |
| 2 | S-115P | Extension..... | 1 | ST-824 | 3/4" " " |
| 1 | S-121P | Extension..... | 1 | ST-828 | 7/8" " " |
| 2 | SH-130 | Adapter..... | 1 | ST-832 | 1" " " |
| 2 | SH-131 | Adapter..... | 1 | SU-1216 | 1/2" Universal |
| 2 | S-140 | Universal Joint... | 1 | SU-1218 | 9/16" " " |
| 2 | SC-8 | Adj. Crowfoot... | 1 | SU-1220 | 5/8" " " |
| 2 | SC-614 | Cadillac Socket... | 1 | SU-1222 | 11/16" " " |
| 2 | AS-616 | Hollow Scr. Skt.. | 1 | SU-1224 | 3/4" " " |
| 2 | AS-618 | Hollow Scr. Skt.. | 2 | SD-1216 | 1/2" Deep Skt. |
| 3 | ST-1212 | 3/8" 12 Pt. Skt. | 2 | SD-1218 | 9/16" " " |
| 3 | ST-1214 | 7/16" " " | 3 | SD-1220 | 5/8" " " |
| 3 | ST-1216 | 1/2" " " | 2 | SD-1222 | 11/16" " " |
| 3 | ST-1218 | 9/16" " " | 2 | SD-1224 | 3/4" " " |
| 3 | SF-1218 | 9/16" Ford Skt.. | 3 | SD-1226 | 13/16" " " |
| 2 | ST-1219 | 19/32" 12 Pt. Skt. | 2 | SD-1228 | 7/8" " " |
| 3 | ST-1220 | 5/8" " " | 2 | SD-1228T | 7/8" " " |
| 2 | ST-1221 | 21/32" " " | 2 | SD-1230 | 15/16" " " |
| 2 | ST-1222 | 11/16" " " | 2 | SD-1232 | 1" " " |
| 2 | ST-1224 | 3/4" " " | 2 | SD-1234 | 1-1/16" " " |
| 2 | ST-1225 | 25/32" " " | 2 | SD-1236 | 1-1/8" " " |
| 2 | ST-1226 | 13/16" " " | | | |

CONTENTS

| Quan. | No. | Description |
|-------|---------|------------------------------|
| 1 | H-20A | Sliding T Handle..... |
| 1 | H-41 | Flex. Handle..... |
| 1 | H-41B | Sliding Bar..... |
| 1 | H-51 | Reversible Ratchet..... |
| 1 | H-104 | Extension..... |
| 1 | H-110 | Extension..... |
| 1 | H-115 | Extension..... |
| 1 | H-140 | Universal Joint..... |
| 1 | H-1228 | 7/8" 12 Pt. Socket..... |
| 1 | H-1230 | 15/16" " " |
| 1 | H-1231 | 31/32" " " |
| 1 | H-1232 | 1" " " |
| 1 | H-1234 | 1- 1/16" " " |
| 1 | H-1236 | 1- 1/8" " " |
| 1 | H-1238 | 1- 3/16" " " |
| 1 | H-1240 | 1- 1/4" " " |
| 1 | H-1242 | 1- 5/16" " " |
| 1 | H-1244 | 1- 3/8" " " |
| 1 | H-1246 | 1- 7/16" " " |
| 1 | H-1248 | 1- 1/2" " " |
| 1 | H-1252 | 1- 5/8" " " |
| 1 | H-1254 | 1-11/16" " " |
| 1 | H-1256 | 1- 3/4" " " |
| 1 | H-1258 | 1-13/16" " " |
| 1 | H-1260 | 1- 7/8" " " |
| 1 | H-1264 | 2" " " |
| 1 | HD-1230 | 15/16" 12 Pt. Deep Socket... |
| 1 | HD-1234 | 1-1/16" " " " |
| 1 | HD-1240 | 1-1/4" " " " |
| 1 | HD-1246 | 1-7/16" " " " |

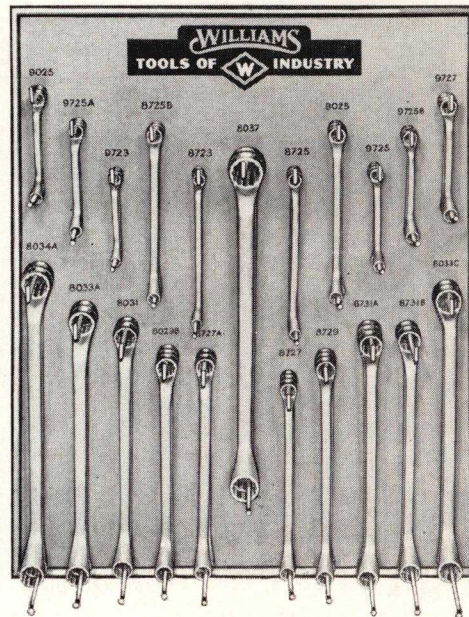
WILLIAMS' TOOL DISPLAY BOARDS

(24 x 30 Inches)



No. 104

Weight, Board Only—18.8 lbs.
Weight, Tools Only—22 lbs.



No. 105

Weight, Board Only—18.8 lbs.
Weight, Tools Only—24.5 lbs.

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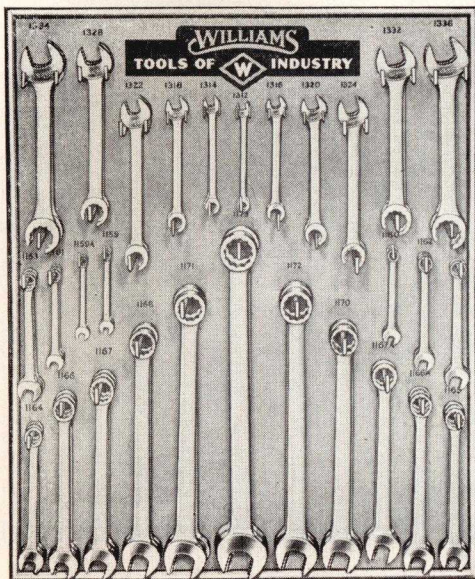
| Quan. | No. | Description |
|-------|-------|-------------------------|
| 3 | 7723 | 15° Box 3/8 & 7/16" |
| 3 | 7025 | 15° Box 1/2 & 19/32" |
| 3 | 7725 | 15° Box 7/16 & 1/2" |
| 3 | 7725B | 15° Box 1/2 & 9/16" |
| 3 | 7727 | 15° Box 9/16 & 5/8" |
| 3 | 7727A | 15° Box 5/8 & 11/16" |
| 3 | 7029B | 15° Box 11/16 & 3/4" |
| 3 | 7729 | 15° Box 5/8 & 3/4" |
| 2 | 7731A | 15° Box 3/4 & 7/8" |
| 2 | 7031 | 15° Box 25/32 & 7/8" |
| 2 | 7731B | 15° Box 13/16 & 7/8" |
| 2 | 7033A | 15° Box 7/8 & 15/16" |
| 2 | 7033C | 15° Box 15/16 & 1" |
| 2 | 7034A | 15° Box 15/16 & 1-1/16" |
| 1 | 7037 | 15° Box 1-1/16 & 1-1/4" |
| 2 | 6723 | Short Box 3/8 & 7/16" |
| 2 | 6725 | Short Box 7/16 & 1/2" |
| 2 | 6725A | Short Box 7/16 & 9/16" |
| 2 | 6725B | Short Box 1/2 & 9/16" |
| 2 | 6025 | Short Box 1/2 & 19/32" |
| 2 | 6727 | Short Box 9/16 & 5/8" |

CONTENTS

| Quan. | No. | Description |
|-------|-------|-------------------------|
| 3 | 8723 | 45° Box 3/8 & 7/16" |
| 3 | 8725 | 45° Box 7/16 & 1/2" |
| 3 | 8025 | 45° Box 1/2 & 19/32" |
| 3 | 8725B | 45° Box 1/2 & 9/16" |
| 3 | 8727 | 45° Box 9/16 & 5/8" |
| 3 | 8727A | 45° Box 5/8 & 11/16" |
| 3 | 8729 | 45° Box 5/8 & 3/4" |
| 3 | 8029B | 45° Box 11/16 & 3/4" |
| 2 | 8031 | 45° Box 25/32 & 7/8" |
| 2 | 8731A | 45° Box 3/4 & 7/8" |
| 2 | 8731B | 45° Box 13/16 & 7/8" |
| 2 | 8033A | 45° Box 7/8 & 15/16" |
| 2 | 8033C | 45° Box 15/16 & 1" |
| 2 | 8034A | 45° Box 15/16 & 1-1/16" |
| 1 | 8037 | 45° Box 1-1/16 & 1-1/4" |
| 2 | 9723 | 45° Short 3/8 & 7/16" |
| 2 | 9725 | 45° Short 7/16 & 1/2" |
| 2 | 9725A | 45° Short 7/16 & 9/16" |
| 2 | 9725B | 45° Short 1/2 & 9/16" |
| 2 | 9025 | 45° Short 1/2 & 19/32" |
| 2 | 9727 | 45° Short 9/16 & 5/8" |

WILLIAMS' TOOL DISPLAY BOARDS

(24 x 30 Inches)

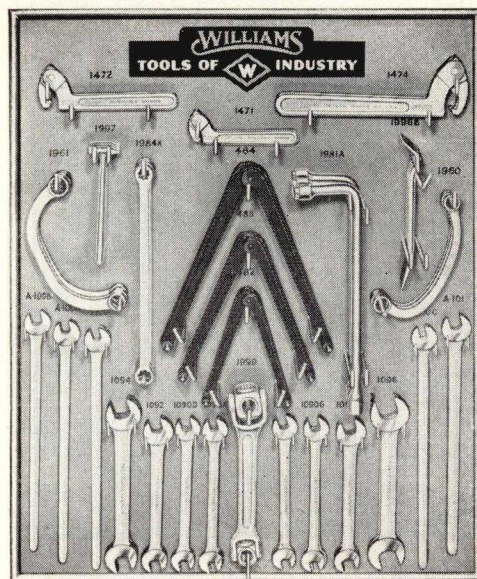


No. 106

Weight, Board Only—18.5 lbs.
Weight, Tools Only—37.9 lbs.

CONTENTS

| Quan. | No. | Description |
|-------|-------|-------------------------------|
| 2 | 1159 | Open End Box 5/16 & 5/16" |
| 2 | 1159A | Open End Box 11/32 & 11/32" |
| 3 | 1160 | Open End Box 3/8 & 3/8" |
| 3 | 1161 | Open End Box 7/16 & 7/16" |
| 3 | 1162 | Open End Box 1/2 & 1/2" |
| 3 | 1163 | Open End Box 9/16 & 9/16" |
| 2 | 1163A | Open End Box 19/32 & 19/32" |
| 3 | 1164 | Open End Box 5/8 & 5/8" |
| 2 | 1165 | Open End Box 11/16 & 11/16" |
| 2 | 1166 | Open End Box 3/4 & 3/4" |
| 2 | 1166A | Open End Box 25/32 & 25/32" |
| 2 | 1167 | Open End Box 7/8 & 7/8" |
| 2 | 1167A | Open End Box 13/16 & 13/16" |
| 2 | 1168 | Open End Box 15/16 & 15/16" |
| 2 | 1170 | Open End Box 1 & 1" |
| 2 | 1171 | Open End Box 1-1/16 & 1-1/16" |
| 2 | 1172 | Open End Box 1-1/8 & 1-1/8" |
| 2 | 1173 | Open End Box 1-1/4 & 1-1/4" |
| 2 | 1312 | Flare Nut 3/8 & 3/8" |
| 2 | 1314 | Flare Nut 7/16 & 7/16" |
| 2 | 1316 | Flare Nut 1/2 & 1/2" |
| 2 | 1318 | Flare Nut 9/16 & 9/16" |
| 2 | 1320 | Flare Nut 5/8 & 5/8" |
| 2 | 1322 | Flare Nut 11/16 & 11/16" |
| 2 | 1324 | Flare Nut 3/4 & 3/4" |
| 2 | 1328 | Flare Nut 7/8 & 7/8" |
| 2 | 1332 | Flare Nut 1 & 1" |
| 2 | 1334 | Flare Nut 1-1/16 & 1-1/16" |
| 2 | 1336 | Flare Nut 1-1/8 & 1-1/8" |



No. 107

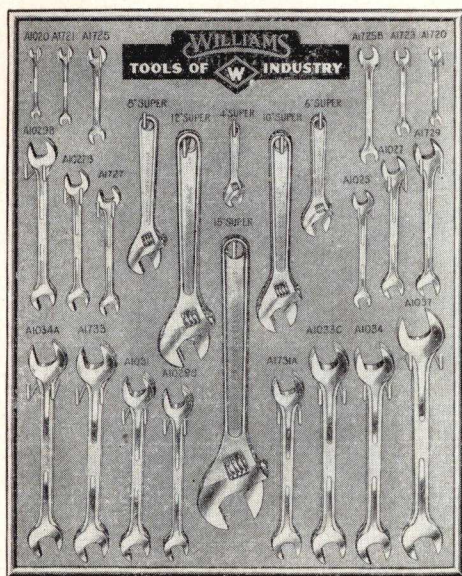
Weight, Board Only—19 lbs.
Weight, Tools Only—19.5 lbs.

CONTENTS

| Quan. | No. | Description |
|-------|-------|-----------------------------|
| 3 | 1090 | Tappet Wrench 7/16 & 1/2" |
| 3 | 1090A | Tappet Wrench 3/8 & 7/16" |
| 3 | 1090D | Tappet Wrench 1/2 & 9/16" |
| 3 | 1090G | Tappet Wrench 7/16 & 17/32" |
| 3 | 1092 | Tappet Wrench 9/16 & 5/8" |
| 3 | 1092F | Tappet Wrench 5/8 & 11/16" |
| 3 | 1094 | Tappet Wrench 3/4 & 7/8" |
| 3 | 1096 | Tappet Wrench 15/16 & 1" |
| 3 | A100 | Tappet Wrench 7/16" Opening |
| 3 | A100A | Tappet Wrench 1/2" Opening |
| 3 | A100B | Tappet Wrench 9/16" Opening |
| 3 | A100C | Tappet Wrench 3/8" Opening |
| 3 | A101 | Tappet Wrench 5/8" Opening |
| 1 | 1999 | "Multisocket" Wrench |
| 1 | 1997 | Brake Wrench |
| 2 | 1960 | Starter and Manifold Wrench |
| 2 | 1961 | Starter and Manifold Wrench |
| 2 | 1984X | Ford Brake Wrench |
| 3 | 1998B | Bendix Brake Wrench |
| 2 | 1981A | Ford Conn. Rod Wrench |
| 1 | 1471 | Adjustable Hook Spanner |
| 1 | 1472 | Adjustable Hook Spanner |
| 1 | 1474 | Adjustable Hook Spanner |
| 1 | 482 | Adjustable Face Spanner |
| 1 | 483 | Adjustable Face Spanner |
| 1 | 484 | Adjustable Face Spanner |

WILLIAMS' TOOL DISPLAY BOARDS

(24 x 30 Inches)

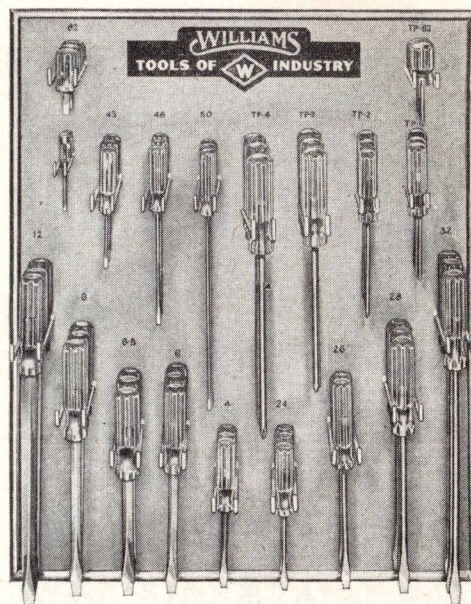


No. 108

Weight, Board Only—18.8 lbs.
Weight, Tools Only—27 lbs.

CONTENTS

| Qty. | No. | Description |
|------|--------|---------------------------------|
| 2 | A1020 | Open End Wrench 1/4 & 5/16" |
| 2 | A1720 | Open End Wrench 5/16 & 11/32" |
| 2 | A1721 | Open End Wrench 5/16 & 3/8" |
| 3 | A1723 | Open End Wrench 3/8 & 7/16" |
| 3 | A1725 | Open End Wrench 7/16 & 1/2" |
| 3 | A1725B | Open End Wrench 1/2 & 9/16" |
| 2 | A1025 | Open End Wrench 1/2 & 19/32" |
| 3 | A1727 | Open End Wrench 9/16 & 5/8" |
| 2 | A1027 | Open End Wrench 19/32 & 11/16" |
| 2 | A1027B | Open End Wrench 5/8 & 11/16" |
| 3 | A1729 | Open End Wrench 5/8 & 3/4" |
| 2 | A1029B | Open End Wrench 11/16 & 3/4" |
| 2 | A1029C | Open End Wrench 11/16 & 13/16" |
| 2 | A1731A | Open End Wrench 3/4 & 7/8" |
| 2 | A1031 | Open End Wrench 25/32 & 7/8" |
| 2 | A1033C | Open End Wrench 15/16 & 1" |
| 2 | A1733 | Open End Wrench 7/8 & 1" |
| 2 | A1034 | Open End Wrench 7/8 & 1-1/16" |
| 1 | A1034A | Open End Wrench 15/16 & 1-1/16" |
| 1 | A1037 | Open End Wrench 1-1/16 & 1-1/4" |
| 3 | 4" | "Superjustable" Wrench..... |
| 3 | 6" | "Superjustable" Wrench..... |
| 3 | 8" | "Superjustable" Wrench..... |
| 3 | 10" | "Superjustable" Wrench..... |
| 2 | 12" | "Superjustable" Wrench..... |
| 1 | 15" | "Superjustable" Wrench..... |



No. 109

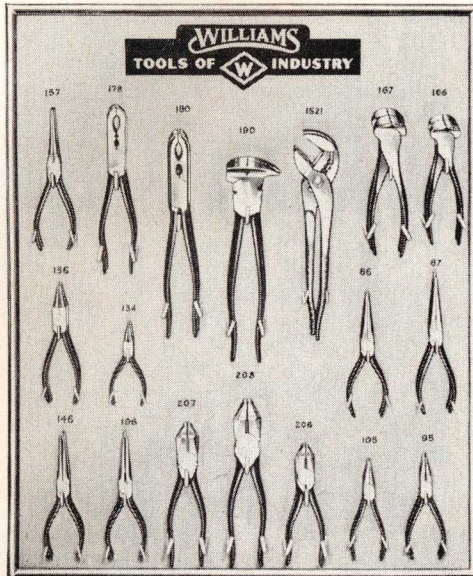
Weight, Board Only—20 lbs.
Weight, Tools Only—16.8 lbs.

CONTENTS

| Qty. | No. | Description |
|------|-------|-------------------------------------|
| 3 | 4 | Screw Driver 4" Square Blade |
| 3 | 6 | Screw Driver 6" Square Blade |
| 3 | 6B | Screw Driver 6" Square Blade |
| 3 | 8 | Screw Driver 8" Square Blade |
| 3 | 12 | Screw Driver 12" Square Blade |
| 3 | 24 | Screw Driver 4" Round Blade |
| 3 | 26 | Screw Driver 6" Round Blade |
| 3 | 28 | Screw Driver 8" Round Blade |
| 3 | 32 | Screw Driver 12" Round Blade |
| 3 | 43 | 3" Electricians' Screw Driver..... |
| 3 | 46 | 6" Electricians' Screw Driver..... |
| 3 | 50 | 10" Electricians' Screw Driver..... |
| 3 | 52 | Pocket Screw Driver..... |
| 3 | 62 | Regular Stubby..... |
| 3 | TP-1 | 3" Phillips Screw Driver..... |
| 3 | TP-2 | 4" Phillips Screw Driver..... |
| 3 | TP-3 | 6" Phillips Screw Driver..... |
| 3 | TP-4 | 8" Phillips Screw Driver..... |
| 3 | TP-62 | Phillips Stubby..... |

WILLIAMS' TOOL DISPLAY BOARDS

(24 x 30 Inches)



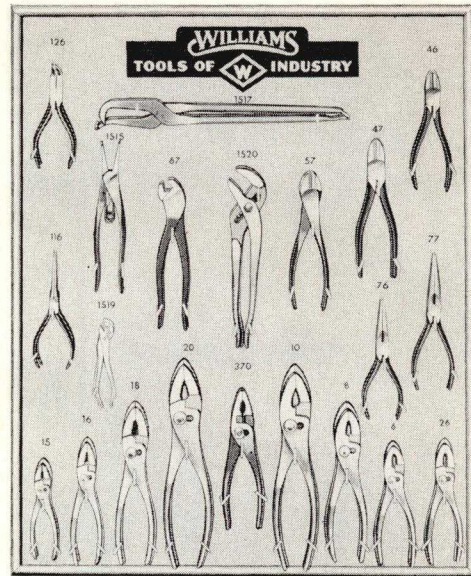
No. 110

Weight, Board Only—17.8 lbs.

Weight, Tools Only—25.8 lbs.

CONTENTS

| Quan. | No. | Description |
|-------|------|--|
| 2 | 1521 | Heavy Duty "Superplier" |
| 2 | 86 | 6" Chain Nose Pliers no cutter |
| 2 | 87 | 7" Chain Nose Pliers no cutter |
| 2 | 95 | 5" Chain Nose Pliers with cutter |
| 2 | 105 | 5" Chain Nose Pliers, no cutter |
| 2 | 134 | 4" Round Nose Pliers |
| 2 | 136 | 6" Round Nose Pliers |
| 2 | 146 | 6" Duck Bill Pliers |
| 2 | 157 | 7" Duck Bill Pliers |
| 2 | 166 | 6" End Cutting Nippers |
| 2 | 167 | 7" End Cutting Nippers |
| 2 | 178 | 8" Gas and Burner Pliers |
| 2 | 180 | 10" Gas and Burner Pliers |
| 2 | 190 | 10" Fence Pliers |
| 2 | 196 | 6" Flat Nose Pliers with cutter |
| 2 | 206 | 6" Linemen's Pliers |
| 2 | 207 | 7" Linemen's Pliers |
| 2 | 208 | 8" Linemen's Pliers |



No. 110A

Weight, Board Only—17.3 lbs.

Weight, Tools Only—22.7 lbs.

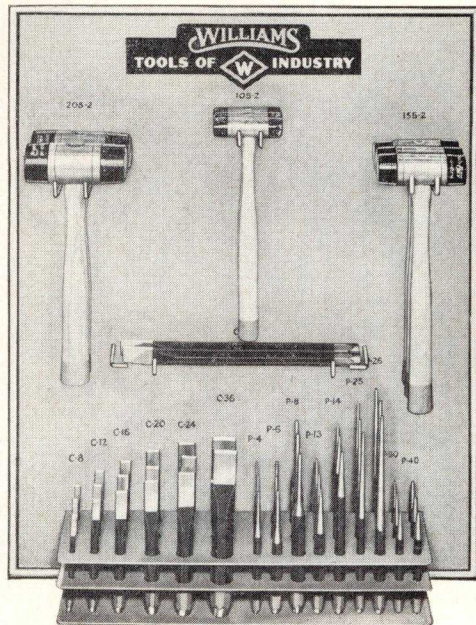
CONTENTS

| Quan. | No. | Description |
|-------|------|---|
| 2 | 1515 | 8" Lock Ring Pliers |
| 2 | 1517 | 13" Brake Pliers |
| 2 | 1519 | Midget "Superpliers" |
| 2 | 1520 | Standard "Superpliers" |
| 2 | 6 | 6" Combination Slip-Joint Pliers |
| 2 | 8 | 8" Combination Slip-Joint Pliers |
| 2 | 10 | 10" Combination Slip-Joint Pliers |
| 2 | 370 | 7" Slip-Joint Pliers with Cutter |
| *2 | 15 | 5" Thin Nose Combination Pliers |
| 2 | 16 | 6" Thin Nose Combination Pliers |
| *2 | 18 | 8" Thin Nose Combination Pliers |
| *2 | 20 | 10" Thin Nose Combination Pliers |
| *2 | 26 | 6" 30° Bent Nose Combination Pliers |
| 2 | 46 | 6" Diagonal Cutting Pliers |
| 2 | 47 | 7" Diagonal Cutting Pliers |
| 2 | 57 | 7" High Leverage Cutting Pliers |
| 2 | 67 | 7" Battery Pliers |
| 2 | 76 | 6" Chain Nose Pliers with Cutter |
| 2 | 77 | 7" Chain Nose Pliers with Cutter |
| 2 | 116 | 6" Long Needle Nose Pliers |
| 2 | 126 | 6" Bent Needle Nose Pliers |

* Not yet available.

WILLIAMS' TOOL DISPLAY BOARDS

(24 x 30 Inches)

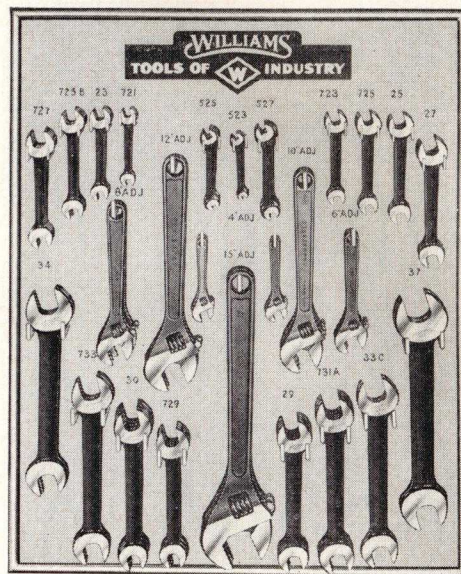


No. 111

Weight, Board Only—23.5 lbs.
Weight, Tools Only—28.4 lbs.

CONTENTS

| Qty. | No. | Description |
|------|-------|----------------------------------|
| 3 | P-4 | 1/8" Pin Punch..... |
| 3 | P-6 | 3/16" Pin Punch..... |
| 3 | P-8 | 1/4" Pin Punch..... |
| 3 | P-13 | 3/32" Solid Punch..... |
| 3 | P-14 | 1/8" Solid Punch..... |
| 3 | P-25 | 5/32" Long Taper Punch..... |
| 3 | P-26 | 3/16" Long Taper Punch..... |
| 3 | P-30 | Prick Punch..... |
| 3 | P-40 | Center Punch..... |
| 3 | C-8 | 1/4" Cold Chisel..... |
| 3 | C-12 | 3/8" Cold Chisel..... |
| 3 | C-16 | 1/2" Cold Chisel..... |
| 3 | C-20 | 5/8" Cold Chisel..... |
| 3 | C-24 | 3/4" Cold Chisel..... |
| 3 | C-36 | 1-1/8" Cold Chisel..... |
| 2 | C-422 | 11/16" Rivet Buster..... |
| 2 | 105-2 | 8 oz. Soft-Face Hammer..... |
| 2 | 155-2 | 1-1/4 lbs. Soft-Face Hammer..... |
| 2 | 205-2 | 2 lb. Soft-Face Hammer..... |



No. 115

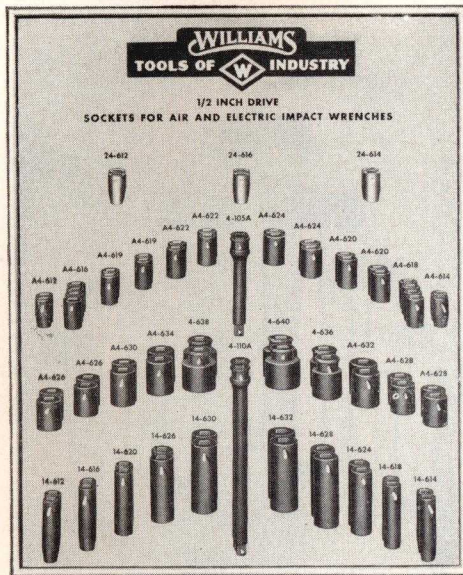
Weight, Board Only—18.8 lbs.
Weight, Tools Only—46 lbs.

CONTENTS

| Qty. | No. | Description |
|------|------|-------------------------------------|
| 4 | 721 | Carbon Open End Wr. 5/16 & 3/8" |
| 4 | 723 | Carbon Open End Wr. 3/8 & 7/16" |
| 4 | 23 | Carbon Open End Wr. 13/32 & 1/2" |
| 4 | 725 | Carbon Open End Wr. 7/16 & 1/2" |
| 4 | 725B | Carbon Open End Wr. 1/2 & 9/16" |
| 4 | 25 | Carbon Open End Wr. 1/2 & 19/32" |
| 4 | 727 | Carbon Open End Wr. 9/16 & 5/8" |
| 4 | 27 | Carbon Open End Wr. 19/32 & 11/16" |
| 4 | 729 | Carbon Open End Wr. 5/8 & 3/4" |
| 4 | 29 | Carbon Open End Wr. 11/16 & 25/32" |
| 4 | 30 | Carbon Open End Wr. 11/16 & 7/8" |
| 4 | 731A | Carbon Open End Wr. 3/4 & 7/8" |
| 2 | 733 | Carbon Open End Wr. 7/8 & 1" |
| 2 | 33C | Carbon Open End Wr. 15/16 & 1" |
| 2 | 34 | Carbon Open End Wr. 7/8 & 1-1/16" |
| 2 | 37 | Carbon Open End Wr. 1-1/16 & 1-1/4" |
| 4 | 523 | Carbon Set Screw Wr. 3/16 & 1/4" |
| 4 | 525 | Carbon Set Screw Wr. 1/4 & 5/16" |
| 4 | 527 | Carbon Set Screw Wr. 5/16 & 3/8" |
| 4 | 4" | Carbon Adjustable Wrench..... |
| 4 | 6" | Carbon Adjustable Wrench..... |
| 4 | 8" | Carbon Adjustable Wrench..... |
| 4 | 10" | Carbon Adjustable Wrench..... |
| 2 | 12" | Carbon Adjustable Wrench..... |
| 2 | 15" | Carbon Adjustable Wrench..... |

WILLIAMS' IMPACT SOCKET DISPLAY BOARDS

(24 x 30 Inches)



No. 116

Weight, Board Only—18.8 lbs.

Weight, Tools Only—28.3 lbs.

CONTENTS

| Quan. | No. | Description |
|-------|--------|---------------------------------|
| 2 | A4-612 | 3/8" Alternate Hex Socket... |
| 2 | A4-614 | 7/16" Alternate Hex Socket... |
| 4 | A4-616 | 1/2" Alternate Hex Socket... |
| 4 | A4-618 | 9/16" Alternate Hex Socket... |
| 4 | A4-619 | 19/32" Alternate Hex Socket... |
| 4 | A4-620 | 5/8" Alternate Hex Socket... |
| 4 | A4-622 | 11/16" Alternate Hex Socket... |
| 4 | A4-624 | 3/4" Alternate Hex Socket... |
| 4 | A4-626 | 13/16" Alternate Hex Socket... |
| 4 | A4-628 | 7/8" Alternate Hex Socket... |
| 2 | A4-630 | 15/16" Alternate Hex Socket... |
| 2 | A4-632 | 1" Alternate Hex Socket... |
| 2 | A4-634 | 1-1/16" Alternate Hex Socket... |
| 2 | 4-636 | 1-1/8" Standard Hex Socket... |
| 2 | 4-638 | 1-3/16" Standard Hex Socket... |
| 2 | 4-640 | 1-1/4" Standard Hex Socket... |
| 2 | 14-612 | 3/8" Bolt Cl. Hex Socket... |
| 2 | 14-614 | 7/16" Bolt Cl. Hex Socket... |
| 2 | 14-616 | 1/2" Bolt Cl. Hex Socket... |
| 2 | 14-618 | 9/16" Bolt Cl. Hex Socket... |
| 2 | 14-620 | 5/8" Bolt Cl. Hex Socket... |
| 2 | 14-624 | 3/4" Bolt Cl. Hex Socket... |
| 2 | 14-626 | 13/16" Bolt Cl. Hex Socket... |
| 2 | 14-628 | 7/8" Bolt Cl. Hex Socket... |
| 2 | 14-630 | 15/16" Bolt Cl. Hex Socket... |
| 2 | 14-632 | 1" Bolt Cl. Hex Socket... |
| 2 | 24-612 | 3/8" Self Tapping Socket... |
| 2 | 24-614 | 7/16" Self Tapping Socket... |
| 2 | 24-616 | 1/2" Self Tapping Socket... |
| 2 | 4-105A | 1/2" Drive Extension, 5"... |
| 2 | 4-110A | 1/2" Drive Extension, 10"... |



No. 117

Weight, Board Only—17.1 lbs.

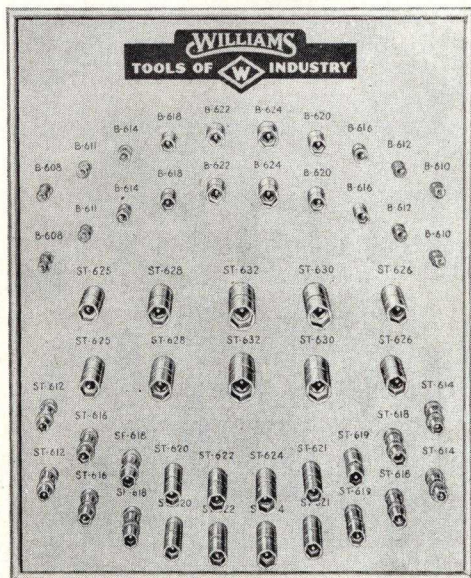
Weight, Tools Only—36 lbs.

CONTENTS

| Quan. | No. | Description |
|-------|--------|--------------------------------|
| 3 | 5-618 | 9/16" Standard Hex Socket... |
| 3 | 5-620 | 5/8" Standard Hex Socket... |
| 3 | 5-622 | 11/16" Standard Hex Socket... |
| 3 | 5-624 | 3/4" Standard Hex Socket... |
| 3 | 5-625 | 25/32" Standard Hex Socket... |
| 3 | 5-626 | 13/16" Standard Hex Socket... |
| 3 | 5-628 | 7/8" Standard Hex Socket... |
| 3 | 5-630 | 15/16" Standard Hex Socket... |
| 3 | 5-632 | 1" Standard Hex Socket... |
| 2 | 5-634 | 1-1/16" Standard Hex Socket... |
| 2 | 5-636 | 1-1/8" Standard Hex Socket... |
| 2 | 5-640 | 1-1/4" Standard Hex Socket... |
| 3 | 15-618 | 9/16" Bolt Cl. Hex Socket... |
| 3 | 15-620 | 5/8" Bolt Cl. Hex Socket... |
| 3 | 15-624 | 3/4" Bolt Cl. Hex Socket... |
| 3 | 15-626 | 13/16" Bolt Cl. Hex Socket... |
| 3 | 15-628 | 7/8" Bolt Cl. Hex Socket... |
| 3 | 15-630 | 15/16" Bolt Cl. Hex Socket... |
| 3 | 15-632 | 1" Bolt Cl. Hex Socket... |
| 2 | 15-634 | 1-1/16" Bolt Cl. Hex Socket... |
| 3 | 5-106A | 5/8" Drive Extension, 6"... |
| 3 | 5-110A | 5/8" Drive Extension, 10"... |

WILLIAMS' TOOL DISPLAY BOARDS

(24 x 30 Inches)



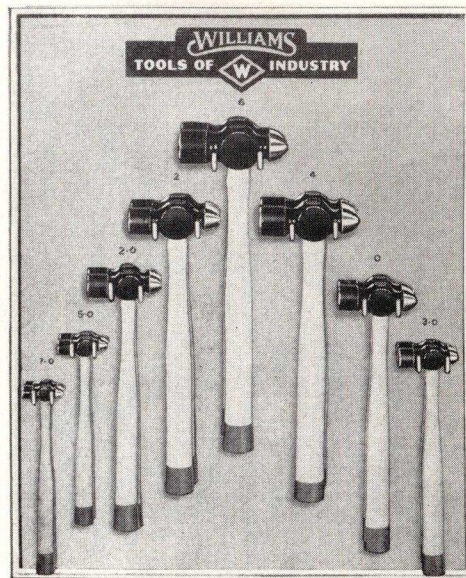
No. 118

Weight, Board Only—16.4 lbs.

Weight, Tools Only—13 lbs.

CONTENTS

| Quan. | No. | Description |
|-------|----------------|---------------------------------|
| 4 | B-608 | 1/4" 6-Point Socket |
| 4 | B-610 | 5/16" 6-Point Socket |
| 4 | B-611 | 11/32" 6-Point Socket |
| 4 | B-612 | 3/8" 6-Point Socket |
| 4 | B-614 | 7/16" 6-Point Socket |
| 4 | B-616 | 1/2" 6-Point Socket |
| 4 | B-618 | 9/16" 6-Point Socket |
| 4 | B-620 | 5/8" 6-Point Socket |
| 4 | B-622 | 11/16" 6-Point Socket |
| 4 | B-624 | 3/4" 6-Point Socket |
| 4 | ST-612 | 3/8" 6-Point Socket |
| 4 | ST-614 | 7/16" 6-Point Socket |
| 4 | ST-616 | 1/2" 6-Point Socket |
| 4 | ST-618 | 9/16" 6-Point Socket |
| 4 | *ST-618 | 9/16" 6-Point Socket |
| 4 | ST-619 | 19/32" 6-Point Socket |
| 4 | ST-620 | 5/8" 6-Point Socket |
| 4 | ST-621 | 21/32" 6-Point Socket |
| 4 | ST-622 | 11/16" 6-Point Socket |
| 4 | ST-624 | 3/4" 6-Point Socket |
| 4 | ST-625 | 25/32" 6-Point Socket |
| 4 | ST-626 | 13/16" 6-Point Socket |
| 4 | ST-628 | 7/8" 6-Point Socket |
| 4 | ST-630 | 15/16" 6-Point Socket |
| 4 | ST-632 | 1" 6-Point Socket |



No. 114

Weight, Board Only—16.1 lbs.

Weight, Tools Only—22.3 lbs.

CONTENTS

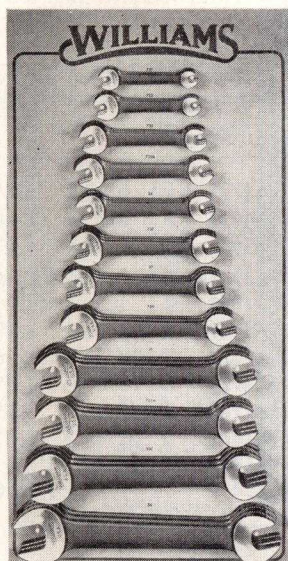
| Quantity | No. | Description |
|----------|------------|--------------------------------------|
| 2 | 7-0 | 2 oz. Ball Pein Hammer |
| 2 | 5-0 | 1/4 lb. Ball Pein Hammer |
| 2 | 3-0 | 1/2 lb. Ball Pein Hammer |
| 2 | 2-0 | 3/4 lb. Ball Pein Hammer |
| 2 | 0 | 1 lb. Ball Pein Hammer |
| 2 | 2 | 1-1/2 lb. Ball Pein Hammer |
| 2 | 4 | 2 lb. Ball Pein Hammer |
| 2 | 6 | 2-1/2 lb. Ball Pein Hammer |

* All Ford 6, Ford-Mercury V-8, 85 HP, 90 HP and 100 HP Connecting Rods. Use with Torque wrench required on models having "Marsden" self-locking nuts. Not guaranteed because of extra thin walls.

WILLIAMS' WRENCH DISPLAY BOARDS

Uniform size and style makes possible endless combinations for walls, counters or windows. Set up a complete Wrench Department at no cost. Displays are furnished at cost of tools only. Wrench sizes are the most commonly used and asked for.

Each panel measures 1/2" x 12" x 24" except No. 7 which measures 3/4" x 16" x 24". Nos. 1 and 11 are finished in bright Williams' orange, all others in rich maroon lacquer.



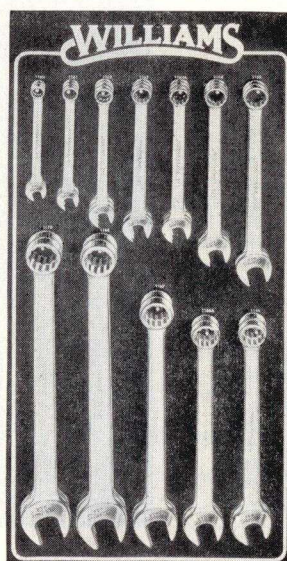
No. 1

**DOUBLE HEAD
OPEN-END
CARBON WRENCHES**

Total Weight, 22 lbs.

CONTENTS

| No. | Qty. | Size |
|------|------|----------------|
| 721 | 3 | 5/16 & 3/8" |
| 723 | 3 | 3/8 & 7/16" |
| 725 | 3 | 7/16 & 1/2" |
| 725B | 3 | 1/2 & 9/16" |
| 25 | 3 | 1/2 & 19/32" |
| 27 | 3 | 19/32 & 11/16" |
| 727 | 3 | 9/16 & 5/8" |
| 729 | 3 | 5/8 & 3/4" |
| 731A | 3 | 3/4 & 7/8" |
| 31 | 3 | 25/32 & 7/8" |
| 33C | 3 | 15/16 & 1" |
| 34 | 3 | 7/8 & 1-1/16" |



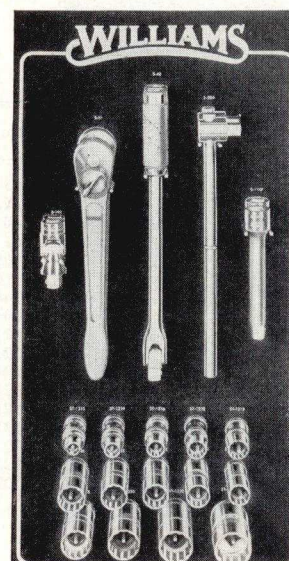
No. 2

**COMBINATION
OPEN-END BOX
ALLOY
"SUPERRENCHES"**

Total Weight, 17.5 lbs.

CONTENTS

| No. | Qty. | Size |
|-------|------|----------------|
| 1160 | 3 | 3/8 & 3/8" |
| 1161 | 3 | 7/16 & 7/16" |
| 1162 | 3 | 1/2 & 1/2" |
| 1163 | 3 | 9/16 & 9/16" |
| 1163A | 3 | 19/32 & 19/32" |
| 1164 | 3 | 5/8 & 5/8" |
| 1165 | 2 | 11/16 & 11/16" |
| 1166 | 2 | 3/4 & 3/4" |
| 1166A | 2 | 25/32 & 25/32" |
| 1167 | 2 | 7/8 & 7/8" |
| 1168 | 2 | 15/16 & 15/16" |
| 1170 | 2 | 1 & 1" |



No. 3

**STANDARD 1/2" SQ. DR.
ALLOY
"SUPERSOCKETS"
and PARTS**

Total Weight, 21.3 lbs.

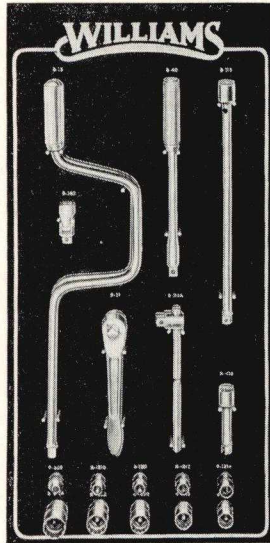
CONTENTS

| No. | Qty. | Size |
|---------|------|--------------------|
| S-20A | 2 | Sliding T Handle |
| S-40 | 2 | Flex. Handle |
| S-51 | 2 | Reversible Ratchet |
| S-110P | 2 | Extension Bar |
| S-140 | 2 | Universal Joint |
| ST-1212 | 2 | 3/8" |
| ST-1214 | 2 | 7/16" |
| ST-1216 | 2 | 1/2" |
| ST-1218 | 2 | 9/16" |
| ST-1219 | 2 | 19/32" |
| ST-1220 | 2 | 5/8" |
| ST-1222 | 2 | 11/16" |
| ST-1224 | 2 | 3/4" |
| ST-1225 | 2 | 25/32" |
| ST-1226 | 2 | 13/16" |
| ST-1228 | 2 | 7/8" |
| ST-1230 | 2 | 15/16" |
| ST-1232 | 2 | 1" |
| ST-1234 | 2 | 1-1/16" |

WILLIAMS' WRENCH DISPLAY BOARDS

No. 4

BANTAM 3/8" SQUARE DRIVE
ALLOY "SUPERSOCKETS" and PARTS



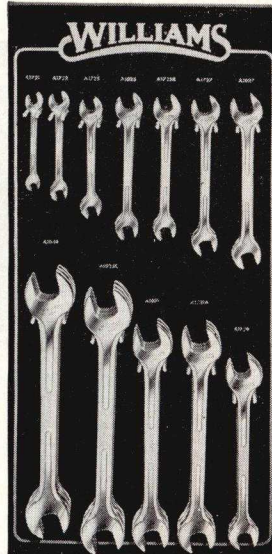
Total Weight, 13.5 lbs.

CONTENTS

| No. | Qty. | Size |
|--------|------|--------------------|
| B-15 | 2 | Speeder |
| B-20A | 2 | Sliding T Handle |
| B-40 | 2 | Flex. Handle |
| B-51 | 2 | Reversible Ratchet |
| B-108 | 2 | Extension Bar |
| B-115 | 2 | Extension Bar |
| B-140 | 2 | Universal Joint |
| B-608 | 2 | 1/4" |
| B-1210 | 2 | 5/16" |
| B-1211 | 2 | 11/32" |
| B-1212 | 2 | 3/8" |
| B-1214 | 2 | 7/16" |
| B-1216 | 2 | 1/2" |
| B-1218 | 2 | 9/16" |
| B-1220 | 2 | 5/8" |
| B-1222 | 2 | 1/16" |
| B-1224 | 2 | 3/4" |

No. 5

DOUBLE HEAD OPEN-END
ALLOY "SUPERRENCHES"



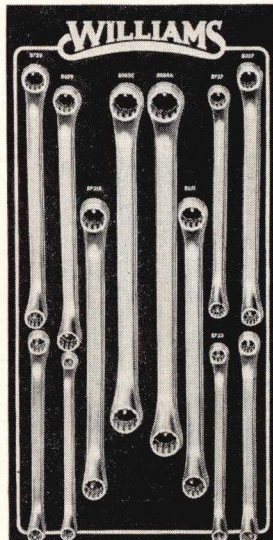
Total Weight, 18.4 lbs.

CONTENTS

| No. | Qty. | Size |
|--------|------|----------------|
| A1721 | 3 | 5/16 & 3/8" |
| A1723 | 3 | 3/8 & 7/16" |
| A1725 | 3 | 7/16 & 1/2" |
| A1725B | 3 | 1/2 & 9/16" |
| A1025 | 3 | 1/2 & 19/32" |
| A1727 | 3 | 9/16 & 5/8" |
| A1027 | 3 | 19/32 & 11/16" |
| A1729 | 3 | 5/8 & 3/4" |
| A1731A | 3 | 3/4 & 7/8" |
| A1031 | 3 | 25/32 & 7/8" |
| A1033C | 3 | 15/16 & 1" |
| A1034 | 3 | 7/8 & 1-1/16" |

No. 6

45° DOUBLE OFFSET BOX
ALLOY "SUPERRENCHES"



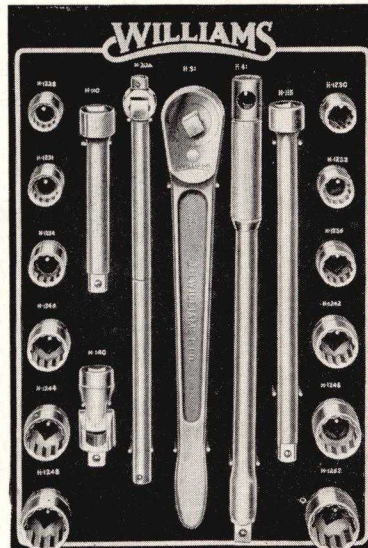
Total Weight, 25.9 lbs.

CONTENTS

| No. | Qty. | Size |
|-------|------|-----------------|
| 8723 | 3 | 3/8 & 7/16" |
| 8725 | 3 | 7/16 & 1/2" |
| 8725B | 3 | 1/2 & 9/16" |
| 8025 | 3 | 1/2 & 19/32" |
| 8727 | 3 | 9/16 & 5/8" |
| 8027 | 3 | 11/16 & 19/32" |
| 8729 | 3 | 5/8 & 3/4" |
| 8029 | 3 | 11/16 & 25/32" |
| 8731A | 3 | 3/4 & 7/8" |
| 8031 | 3 | 25/32 & 7/8" |
| 8033C | 3 | 15/16 & 1" |
| 8034A | 3 | 15/16 & 1-1/16" |

No. 7

HEAVY DUTY 3/4" SQUARE DRIVE
ALLOY "SUPERSOCKETS" and PARTS



Total Weight, 38.5 lbs.

CONTENTS

| No. | Qty. | Size |
|--------|------|-----------|
| H-20A | 1 | Sliding T |
| H-41 | 1 | Flex Hdl. |
| H-51 | 1 | Ratchet |
| H-110 | 1 | Ext. Bar |
| H-115 | 1 | Ext. Bar |
| H-140 | 1 | Univ.Jnt. |
| H-1228 | 1 | 7/8" |
| H-1230 | 1 | 15/16" |
| H-1231 | 1 | 31/32" |
| H-1232 | 1 | 1" |
| H-1234 | 1 | 1-1/16" |
| H-1236 | 1 | 1-1/8" |
| H-1240 | 1 | 1-1/4" |
| H-1242 | 1 | 1-5/16" |
| H-1244 | 1 | 1-3/8" |
| H-1246 | 1 | 1-7/16" |
| H-1248 | 1 | 1-1/2" |
| H-1252 | 1 | 1-5/8" |

WILLIAMS' WRENCH DISPLAY BOARDS

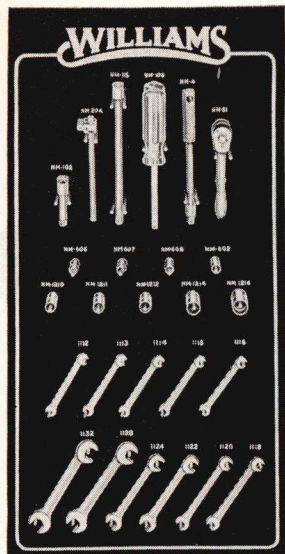
No. 8

**MIDGET 1/4" DRIVE ALLOY "SUPERSOCKETS"
and PARTS—MIDGET "SUPERRENCHES"**

Total Weight, 9 lbs.

CONTENTS

| No. | Qty | Size |
|---------|-----|----------------|
| NM-20A | 2 | Sliding T |
| NM-42 | 2 | Flex. Handle |
| NM-51 | 2 | Rev. Ratchet |
| NM-102 | 2 | Ext. Bar |
| NM-106 | 2 | Ext. Driver |
| NM-115 | 2 | Ext. Bar |
| NM-606 | 2 | 3/16" |
| NM-607 | 2 | 7/32" |
| NM-608 | 2 | 1/4" |
| NM-609 | 2 | 9/32" |
| NM-1210 | 2 | 5/16" |
| NM-1211 | 2 | 11/32" |
| NM-1212 | 2 | 3/8" |
| NM-1214 | 2 | 7/16" |
| NM-1216 | 2 | 1/2" |
| 1112 | 2 | 3/16 & 3/16" |
| 1113 | 2 | 13/64 & 13/64" |
| 1114 | 2 | 7/32 & 7/32" |
| 1115 | 2 | 15/64 & 15/64" |
| 1116 | 2 | 1/4 & 1/4" |
| 1118 | 2 | 9/32 & 9/32" |
| 1120 | 2 | 5/16 & 5/16" |
| 1122 | 2 | 11/32 & 11/32" |
| 1124 | 2 | 3/8 & 3/8" |
| 1128 | 2 | 7/16 & 7/16" |
| 1132 | 2 | 1/2 & 1/2" |



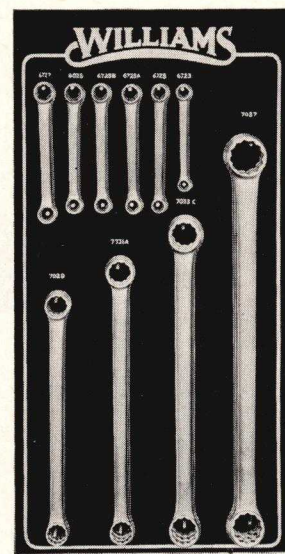
No. 9

**15° DOUBLE OFFSET BOX
ALLOY "SUPERRENCHES"**

**Total Weight,
20.5 lbs.**

CONTENTS

| No. | Qty | Size |
|-------|-----|-----------------|
| 6723 | 3 | 3/8 & 7/16" |
| 6725 | 3 | 7/16 & 1/2" |
| 6725A | 3 | 7/16 & 9/16" |
| 6725B | 3 | 1/2 & 9/16" |
| 6025 | 3 | 1/2 & 19/32" |
| 6727 | 3 | 9/16 & 5/8" |
| 7029 | 3 | 11/16 & 25/32" |
| 7731A | 3 | 3/4 & 7/8" |
| 7033C | 3 | 15/16 & 1" |
| 7037 | 3 | 1-1/16 & 1-1/4" |



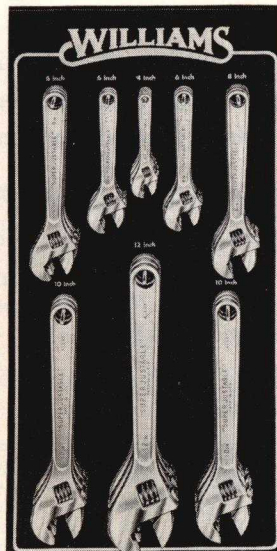
No. 10

**ALLOY
"SUPERJUSTABLE" WRENCHES**

**Total Weight,
19.8 lbs.**

CONTENTS

| No. | Qty. | Capacity |
|---------|------|----------|
| 4 Inch | 6 | 1/2" |
| 6 Inch | 6 | 3/4" |
| 8 Inch | 6 | 15/16" |
| 10 Inch | 6 | 1-1/8" |
| 12 Inch | 3 | 1-5/16" |



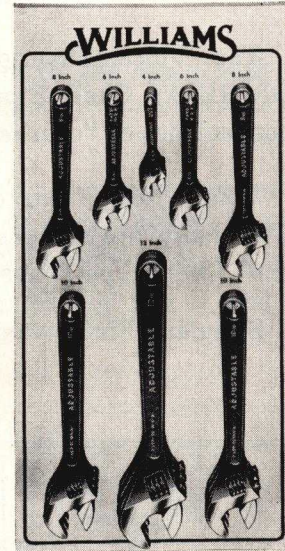
No. 11

**CARBON
ADJUSTABLE WRENCHES**

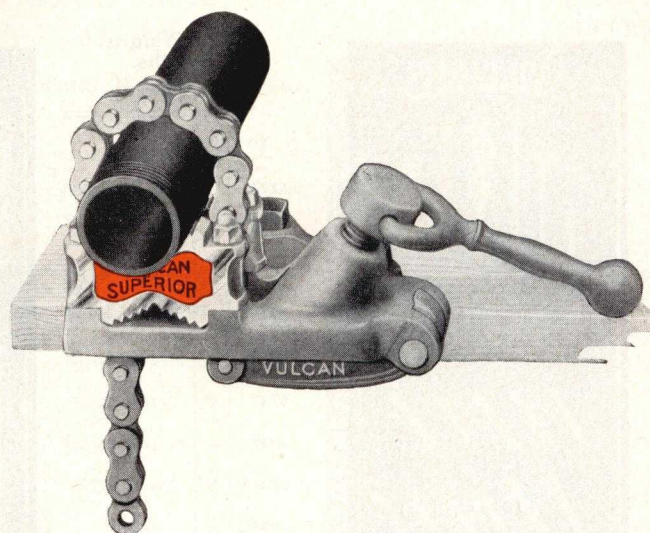
**Total Weight,
19.5 lbs.**

CONTENTS

| No. | Qty. | Capacity |
|---------|------|----------|
| 4 Inch | 6 | 1/2" |
| 6 Inch | 6 | 3/4" |
| 8 Inch | 6 | 15/16" |
| 10 Inch | 6 | 1-1/8" |
| 12 Inch | 3 | 1-5/16" |



WILLIAMS' ♦“VULCAN SUPERIOR”
DROP-FORGED CHAIN PIPE VISE



Points of Superiority

“Overhead” Adjustment—the handle is **on top** for easy operation.

Reversible Jaws—when the teeth first in use wear, simply remove the screws and turn the jaws over—double life.

Larger Capacity—each vise takes pipe 1/2" larger than other chain vises of similar size.

The “Vulcan Superior” Vise provides all the reliability of Williams’ old “Vulcan”—the ORIGINAL Chain Pipe Vise and the favorite for more than 30 years—together with the convenience of “overhead” adjustment. **Reversible** jaws, too, for longer life.

Wholly made from tough wrought steel. **Drop-forged** base, jaws, handle and chain-arm. The chains are of the same unsurpassed quality as those of the widely established “Vulcan” Chain Pipe Tongs. Unbreakable, rapid in action, positive in grip. Fully guaranteed.

Standard Finish—jaws have bright face around orange panel.

Packed one in a box.

| No. | For Pipe, Sizes | Weight Each, Lbs. | Extra Parts, Weight Each, Lbs. | | | | | No. |
|-----------|--------------------|-------------------------|--------------------------------|-------------------------|----------------------|-------------------------|----------------------------|-----------|
| | | | Jaws in Pairs | Chain without Arm | Chain Arm Only | Handle with Screw | Adjusting Screw Only | |
| 11 | 1/8 to 2 1/2 | 7 | 1.1 | 1.1 | .38 | .88 | .38 | 11 |
| 12 | 1/4 to 4 1/2 | 15 | 2.8 | 2.1 | .81 | 1.6 | .81 | 12 |

♦ REGISTERED TRADE MARK

1-52

WILLIAMS' GENUINE ♦"VULCAN"
THE ORIGINAL
DROP-FORGED CHAIN PIPE VISE

For Holding Pipe, Bolts, Bars, Shafts, etc., from 1/8 to 8 inches in Diameter



Standard Finish —
jaws have bright
face around orange
panel.

These Vises are unbreakable, light, compact, rapid in action and positive in gripping pipe. All are readily fastened to bench or post. The smaller sizes are well adapted for carrying by hand or in tool bag.

Adjustment is quickly effected by engaging the projecting rivets of the chain with a series of stepped bosses on the base, when the vise may be instantly locked in an unbreakable grip by a turn of the handle.

They are made entirely of wrought steel; the drop-forged jaws are of saw-tempered steel for file-sharpening. The chains are of same quality as those of our "Vulcan" Chain Pipe Tongs; all parts are fully guaranteed and replacements carried in stock.

All Vises are packed in individual boxes for convenient shelving. Six of Nos. 1 and 2 boxes to a carton.

Orders for Chains take Screw also, unless otherwise specified.

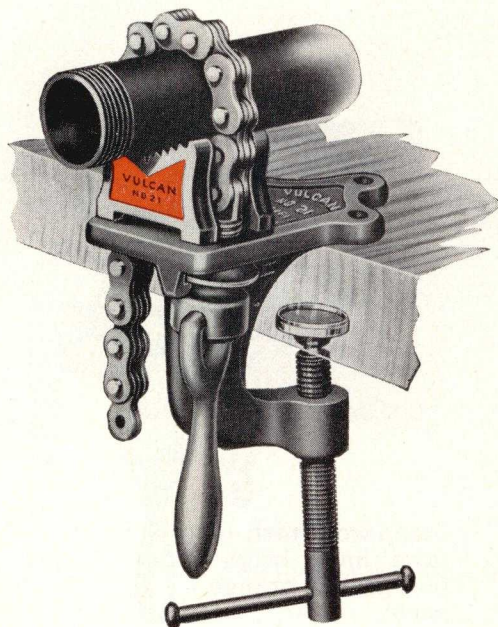
| No. | For Pipe, Sizes | Size, Folded for Packing | Wgt. Each, Lbs. | Extra Parts, Weight Each, Lbs. | | | | | | No. |
|-----|--------------------|-----------------------------|-----------------------|--------------------------------|------------------------|------------------------|-----------------------|----------------|-------------|-----|
| | | | | Jaws in Pairs | Chain with Screw | Chain Screw Only | Handle with Nut | Handle Only | Nut Only | |
| 1 | 1/8 to *2 | 4 x 5 x 6 | 4 | .63 | 1.1 | .25 | .75 | .44 | .25 | 1 |
| 2 | 1/4 to 4 | 6 x 8 x 8 | 10 | 2.5 | 2.4 | .50 | 1.3 | .75 | .56 | 2 |
| 3 | 1/4 to 6 | 8 x 9 x 11 | 18 | 4.9 | 4.7 | .81 | 1.9 | 1. | .88 | 3 |
| 4 | 1/4 to 8 | 8 x 10 x 12 | 30 | 8.4 | 6.1 | .81 | 1.9 | 1. | .88 | 4 |

* Will grip pipe fittings not larger in diameter than Std. 2-1/2" pipe (2-7/8" O.D.).

♦ REGISTERED TRADE MARK

WILLIAMS' + "VULCAN"
CLAMP KIT VISE NO. 21

For Pipe 1/8 to 2 inches



RAPID ACTION
POSITIVE GRIP

RIGID
COMPACT
LIGHT

This Clamp Kit Vise can be readily and firmly attached to bench, post, or other support without the use of bolts, or screws. Easily carried; weighs only 5-3/4 lbs.

The clamping device is very efficient. The clamp member is integral with the base; the clamp-screw, set at a slight forward angle (as illustrated), carries a swivel with thin V lip projecting from its upper edge. Consequently, the Vise can be securely and rigidly attached to support.

The drop-forged jaws are saw-tempered for file-sharpening. Chains are of the same superior quality as those in Williams' "Vulcan" Tongs. Jaws, chain, nut and handle are interchangeable with similar parts of "Vulcan" Vise No. 1.

Packed one in a box for convenient shelving.

Standard Finish—jaws have bright face around orange panel.

Orders for Chains take Screw also, unless otherwise specified.

| No. | For Pipe, Sizes | Weight Each, Lbs. | EXTRA PARTS, Weight Each, Lbs. | | | | | | No. |
|-----|-----------------|-------------------|--------------------------------|------------------|------------------|-----------------|----------|----------------------|-----|
| | | | Jaws in Pairs | Chain with Screw | Chain Screw Only | Handle with Nut | Nut Only | Clamp Screw & Swivel | |
| 21 | 1/8 to *2" | 5 3/4 | .63 | 1.1 | .25 | .75 | .25 | .56 | 21 |

* Will grip pipe fittings not larger in diameter than Std. 2-1/2" pipe (2-7/8" O.D.).

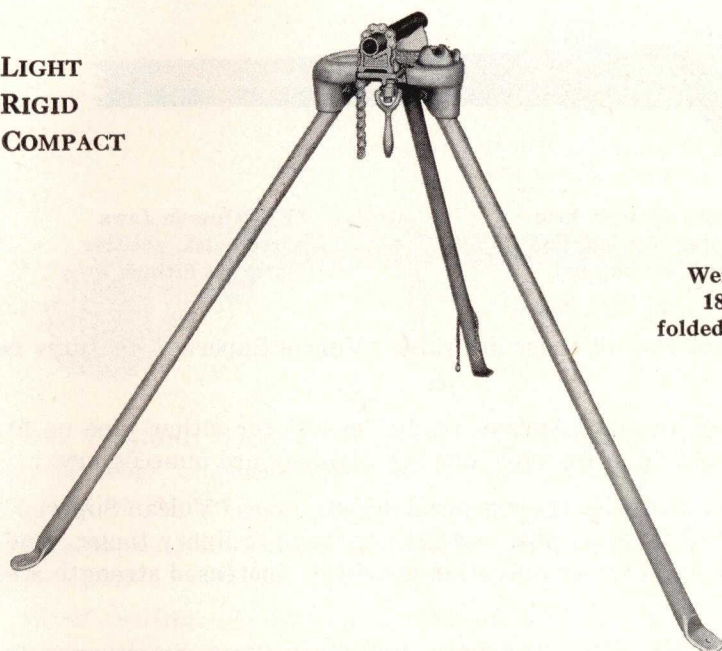
1-52

♦ REGISTERED TRADE MARK

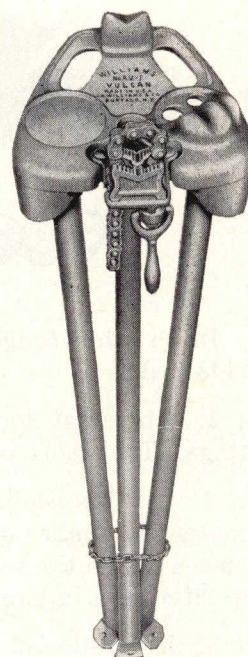
WILLIAMS' ♦ "VULCAN"
ALUMINUM VISE STAND No. AV-1

*A new light weight combination
vise, stand and pipe bender.*

LIGHT
RIGID
COMPACT



Weights Only
18-3/4 lbs.
folded for carrying



This new Aluminum Vise Stand has all the advantages of rigidity and strength found in heavier iron or steel types combined with light weight. There is no sacrifice of efficiency or performance yet weight is reduced nearly 50%.

Base is made from special aluminum alloy which has high tensile and high impact properties. Its heavily reinforced design prevents distortion under severe service. Recess for oil can and handy slots for tools are provided in addition to the "V" pipe support in rear.

Pipe Benders are provided in two sizes. One handles pipe up to 1/2 inch, the other handles pipe up to 3/4 inch.

Legs are 1-1/2" special aluminum alloy tubing. Upset feet are punched for fastening to floor, if desired, although they provide firm, stable support without such fastening. Legs may be folded and tied together with permanently attached chain for easy carrying.

Vise is "Vulcan" No. 1 with all its time tested features as described on Page 155 except it has satin aluminum finish.

Finish—entire assembly has satin aluminum finish.

All parts of Vise and Stand are interchangeable.

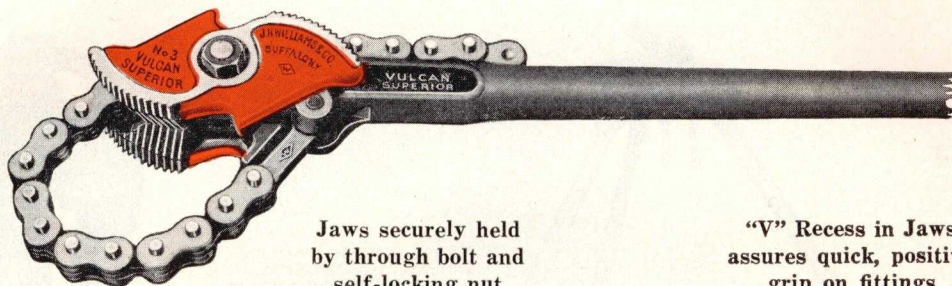
| Vise Stand No. | For Pipe Sizes | Weight, Lbs. | | No. 1 "Vulcan" Vise Parts, Weight Each, Lbs. | | | | | |
|----------------------|-------------------|--------------|-------------------|--|------------------------|------------------------|-----------------------|----------------|-------------|
| | | Vise Only | Stand Complete | Jaws in Pairs | Chain with Screw | Chain Screw Only | Handle with Nut | Handle Only | Nut Only |
| AV-1 | 1/8 to *2" | 4 | 18-3/4 | .63 | 1.1 | .25 | .75 | .44 | .25 |

* Will grip pipe fittings not larger in diameter than Std. 2-1/2" pipe (2-7/8" O.D.).

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "VULCAN SUPERIOR"
DROP-FORGED PIPE-AND-FITTINGS TONGS



For Both Pipe and Fittings, 1/8 to 12 in.



Jaws securely held
by through bolt and
self-locking nut

"V" Recess in Jaws
assures quick, positive
grip on fittings

In no other tongs on the market can all these desirable "Vulcan Superior" features be obtained:

1. **Universal Service**—Two tools in one. Always ready "as is" for either pipe or fittings. Two tools as commonly used (one for pipe, one for fittings) are unnecessary.
2. **"V" Recess** in the jaws, combined with their general design, gives "Vulcan Superior" a greater number of grips or "bites," both on pipe and fittings, than ordinary tongs. One-spot wear on the teeth is prevented and easier operation provided. Increased strength and greater ease in handling results.
3. **Reversible** pipe-and-fittings jaws. When the teeth first in use wear, simply unscrew the bolt and turn the jaws end-for-end.
4. **Chains**—Either Flat Link Chain, or Cable Chain, (except No. 0) as desired.
5. **Proof-Testing.** Each Flat Link Chain is individually "proof-tested" on a standard tension machine to two-thirds of its breaking strain. Every chain so tested is stamped  on the drop-forged swinging-link and to it is attached a leaden seal, bearing our trade mark  Every Flat Link Chain leaving our works must bear this mark and seal—the Proof of Quality—as evidence that it has passed our standardized proof-tests.

Wholly made from tough wrought steel; all parts are interchangeable.

Standard finish—jaws have bright face, orange panel.

| Number | 0 | 1 | 2 | 3 | 3 1/2 | 4 | 5 |
|--------------------------------|------------|--------------|--------------|----------|--------|------------|---------|
| For Pipe and Fittings, inches. | 1/8 to 3/4 | 1/8 to 1 1/2 | 1/4 to 2 1/2 | 3/4 to 4 | 1 to 6 | 1 1/2 to 8 | 2 to 12 |
| Extreme Length | 13 3/4 | 20 | 27 | 37 | 44 1/2 | 50 1/2 | 64 1/2 |
| Weight, lbs. | 2 | 5 1/2 | 10 | 17 | 26 | 34 | 54 |
| Standard Flat Link Chain, | | | | | | | |
| Length | 9 1/2 | 13 1/2 | 17 1/2 | 22 1/2 | 32 | 40 1/2 | 55 1/2 |
| Breaking Strain, lbs. | 3,600 | 6,700 | 9,800 | 12,500 | 14,300 | 15,700 | 21,800 |
| Extra Std. Flat Chain Wt. Ea. | .31 | 1. | 1.8 | 3.5 | 5.3 | 7.8 | 14.2 |
| Cable Chain, | | | | | | | |
| Length | | 14 1/2 | 18 | 27 | 33 1/2 | 42 | 57 |
| Breaking Strain, lbs. | | 6,000 | 9,000 | 12,500 | 14,300 | 15,700 | 21,800 |
| Extra Cable Chain Wt., Ea. | | 1. | 1.9 | 4.3 | 6.2 | 8.6 | 14.8 |
| † Extra Jaws, Weight per Pair | .75 | 1.3 | 2.3 | 4. | 5.5 | 7.4 | 10. |
| Ex. Bolt and Nut, Wt. per Set | .06 | .13 | .19 | .25 | .44 | .50 | .75 |

† Extra Jaws supplied in pairs unless otherwise called for. If only a single jaw is wanted, specify Right or Left.

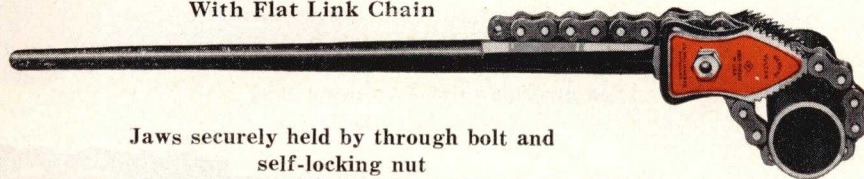
♦ REGISTERED TRADE MARK

1-52

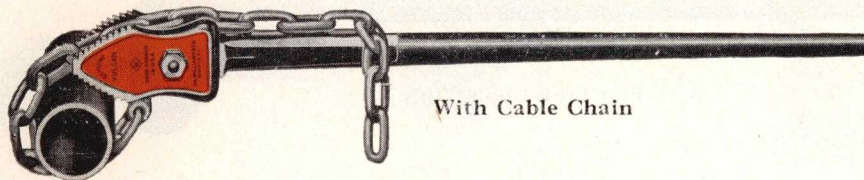
**WILLIAMS' GENUINE ♦"VULCAN"
DROP-FORGED CHAIN PIPE TONGS**

For Turning, or Holding 1/8 to 18 in. Pipe

With Flat Link Chain





Jaws securely held by through bolt and
self-locking nut



With Cable Chain

The Original "Vulcan," introduced by Williams over fifty years ago, is still the oil-fields' favorite tongs for general work. All "Vulcans" are made entirely from tough wrought steel and are fully guaranteed.

Chains swing from the center and can be used on either side of the jaws, thus reducing to the minimum, wear upon specific teeth.

Proof-testing. To insure proper service, each Flat Link Chain is "proof-tested" in a standard tension machine to *two-thirds of its breaking strain* listed in table. Each Chain, so tested, is stamped  on the drop-forged swinging link and to it is attached a leaden seal bearing our trade-mark  thus absolutely establishing the safety-factor and reliability of every tong.

The jaws are fastened to the handle by extra size through bolt and nut.

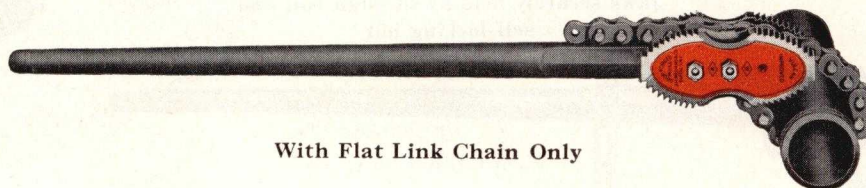
Standard finish—jaws have bright face around orange panel.

| Number | 10 | 11 | 12 | 13 | 13 1/2 | 14 | 15 | 16 |
|--------------------------------------|--------------------|----------------------|----------------------|------------------|----------------|--------------------|-----------------|-----------------|
| Capacity | | | | | | | | |
| Size Pipe, inches..... | { 1/8 to 3/4 | { 1/8 to 1 1/2 | { 1/4 to 2 1/2 | { 3/4 to 4 | { 1 to 6 | { 1 1/2 to 8 | { 2 to 12 | { 4 to 18 |
| Extreme Length..... | 13 3/4 | 20 | 27 | 37 | 44 1/2 | 50 1/2 | 64 1/2 | 87 |
| Weight, lbs..... | 2 | 5 3/4 | 10 | 17 | 24 | 31 | 52 | 137 |
| Flat Standard Chain | | | | | | | | |
| Length..... | 9 1/2 | 13 1/2 | 17 1/2 | 22 1/2 | 32 | 40 1/2 | 55 1/2 | 74 1/2 |
| Breaking Strain, lbs..... | 3,600 | 6,700 | 9,800 | 12,500 | 14,300 | 15,700 | 21,800 | 40,000 |
| Extra Std. Flat Chain, Weight Ea.. | .31 | 1. | 1.8 | 3.5 | 5.3 | 7.8 | 14.2 | 37.6 |
| Cable Chain | | | | | | | | |
| Length..... | 14 1/2 | 18 | 27 | 33 1/2 | 42 | 57 | 76 | |
| Breaking Strain, lbs..... | 6,000 | 9,000 | 12,500 | 14,300 | 15,700 | 21,800 | 40,000 | |
| Extra Cable Chain, Weight Each .. | 1. | 1.9 | 4.3 | 6.2 | 8.6 | 14.8 | 42.6 | |
| Extra Jaws, Weight per Pair..... | .56 | 1.4 | 1.6 | 2.8 | 3.9 | 5.1 | 7.4 | 19.1 |
| Extra Bolt and Nut, Weight per Set.. | .13 | .25 | .38 | .5 | .63 | .88 | 1.2 | 2.8 |

♦ REGISTERED TRADE MARK

WILLIAMS' IMPROVED ♦"VULCAN"
DROP-FORGED CHAIN PIPE TONGS

For Turning, or Holding 1/8 to 12 in. Pipe





With Flat Link Chain Only

Improved "Vulcan" Tongs are similar in design to the original "Vulcan" except that Jaws are double-ended, and are reversible. When teeth first in use wear, Jaws may be quickly reversed, end-for-end, thus providing double service life.

Jaws are fastened to the handle with two unusually tough steel studs. The Tongs are wholly made of wrought steel and are fully guaranteed.

Chains swing from the center and can be used on either side of the jaws, thus reducing to the minimum, wear upon specific teeth.

Proof-testing. To insure proper service, each Flat Link Chain is "*proof-tested*" in a standard tension machine to *two-thirds of its breaking strain* listed in table. Each Chain, so tested, is stamped  on the drop-forged swinging link and to it is attached a leaden seal bearing our trade-mark  thus absolutely establishing the safety-factor and reliability of every tong.

Standard finish—jaws have bright face around orange panel.

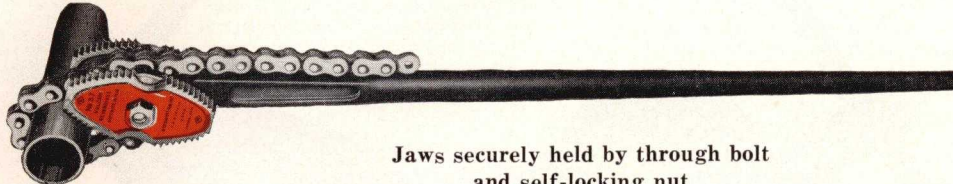
| Number | 30 | 31 | 32 | 33 | 33 1/2 | 34 | 35 |
|---------------------------------|--------------------|----------------------|----------------------|------------------|----------------|--------------------|-----------------|
| Capacity | | | | | | | |
| Size Pipe, inches..... | { 1/8 to 3/4 | { 1/8 to 1 1/2 | { 1/4 to 2 1/2 | { 3/4 to 4 | { 1 to 6 | { 1 1/2 to 8 | { 2 to 12 |
| Extreme Length..... | 13 3/4 | 20 | 27 | 37 | 44 1/2 | 50 1/2 | 64 1/2 |
| Weight, lbs..... | 2 | 5 3/4 | 10 | 17 | 24 | 31 | 52 |
| Flat "Standard" Chain | | | | | | | |
| Length..... | 9 1/2 | 13 1/2 | 17 1/2 | 22 1/2 | 32 | 40 1/2 | 55 1/2 |
| Breaking Strain, lbs..... | 3,600 | 6,700 | 9,800 | 12,500 | 14,300 | 15,700 | 21,800 |
| Extra Std. Flat Chain, Wt., Ea. | .31 | 1. | 1.8 | 3.5 | 5.3 | 7.8 | 14.2 |
| Extra Jaws, Wgt., per Pair.. | .69 | 1.6 | 2.3 | 3.9 | 4.8 | 6.3 | 10.6 |
| Ex. Nuts and Studs, Wt., Set | .06 | .13 | .25 | .31 | .38 | .5 | .63 |

♦ REGISTERED TRADE MARK

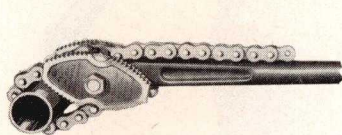
1-52

WILLIAMS' ♦ "VULCAN" REVERSIBLE DROP-FORGED CHAIN PIPE TONGS

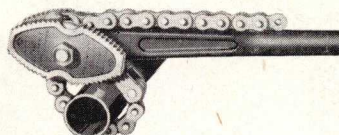
For Both Pipe and Fittings 1/4 to 8 in.



Jaws securely held by through bolt
and self-locking nut



For "Breaking Out"



For "Making up"



For Fittings

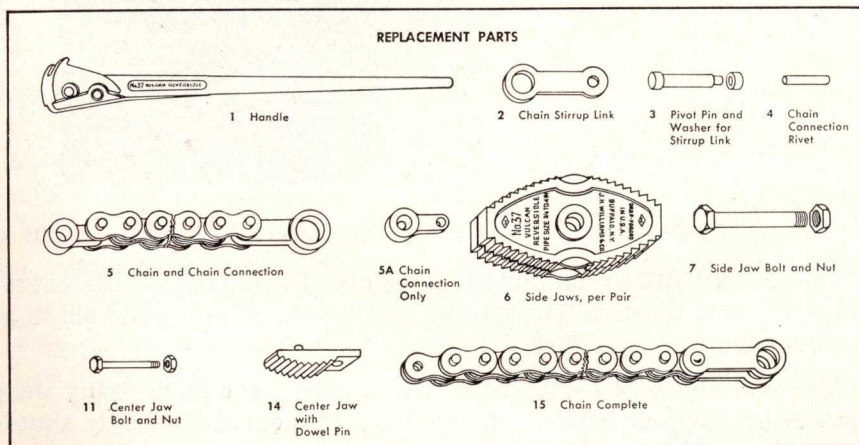
Without removing the tongs or loosening the chain "Vulcan" Reversible Tongs will turn pipe instantly in either direction. Since removal of the tongs is unnecessary no time is lost in reversing the action.

Outer jaws can be removed to make an efficient fittings tongs for narrow beads and flanges. Jaw removal is accomplished by taking out the single bolt and nut used in assembly. These outer jaws are reversible end for end. Standard finish—jaws have bright face around orange panel.

Chains are standard Flat Link.

Proof-Testing. To insure proper service, each Flat Link Chain is "proof-tested" in a standard tension machine to *two-thirds of its breaking strain* listed in table. Each chain so tested is stamped  on the drop-forged swing link and to it is attached a leaden seal bearing our trade-mark  thus absolutely establishing the safety-factor and reliability of every tong.

Wholly made from tough wrought steel; all parts are interchangeable.



Order replacements by part number and tong size.

No. 5 Chain Replacement includes No. 5A Chain Connection on one end and connection (not illustrated separately) on other end for "Vulcan" and other makes of single jaw pipe tongs. No. 15 Chain Replacement, with connections as illustrated, fits "Vulcan" Reversible and other make tongs of this type only.

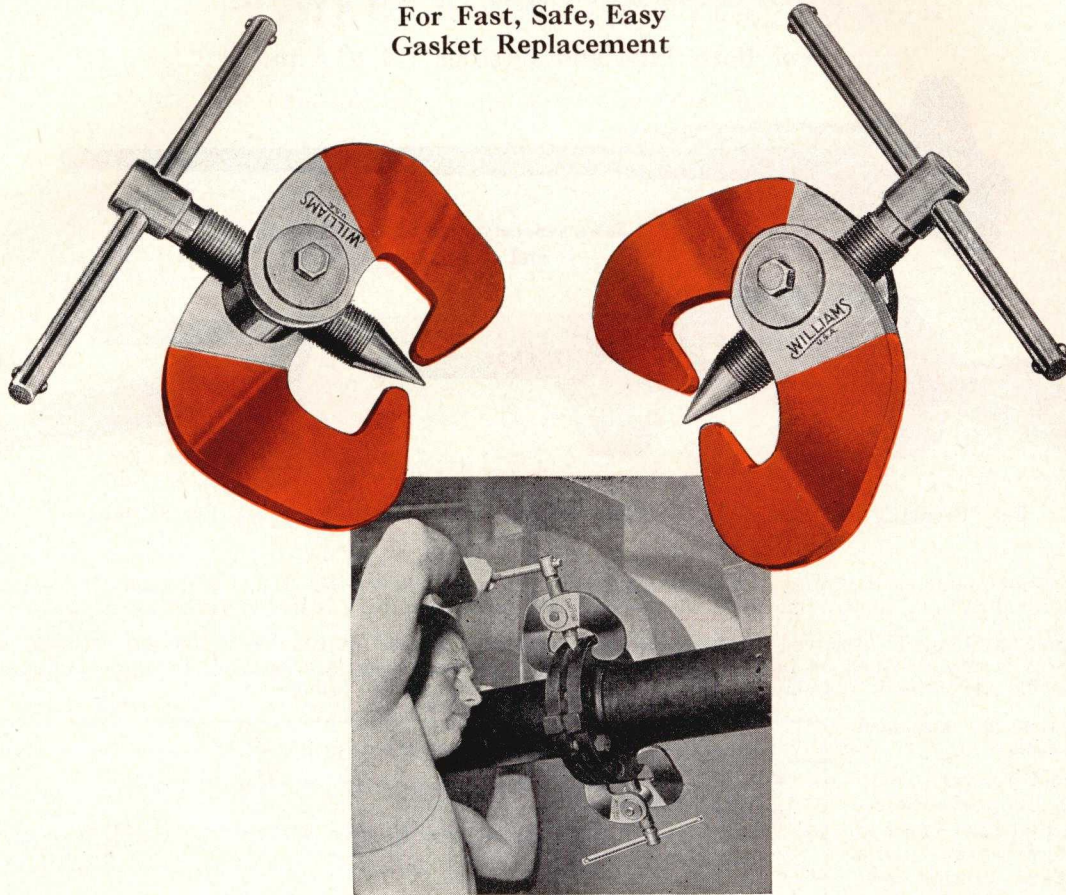
| Number | 27 | 37 | 47 | 57 |
|------------------------------------|--------------|----------|--------|------------|
| For Pipe and Fittings, inches..... | 1/4 to 2-1/2 | 3/4 to 4 | 1 to 6 | 1-1/2 to 8 |
| Extreme Length..... | 27 | 37 | 44-1/2 | 50-1/2 |
| Weight, Lbs..... | 12.3 | 19.7 | 29.3 | 43 |
| Standard Flat Link Chain | | | | |
| Length..... | 17-1/2 | 22-1/2 | 32 | 40-1/2 |
| Breaking Strain, Lbs..... | 9,800 | 12,500 | 14,300 | 15,700 |

♦ REGISTERED TRADE MARK

WILLIAMS' FLANGE-JACKS

PATENTED

For Fast, Safe, Easy
Gasket Replacement



These fully-patented FLANGE-JACKS take the guesswork out of gasket replacement

Operating with a minimum of effort, FLANGE-JACKS exert tremendous pressure smoothly and evenly. The flanges are parted quickly and held in perfect alignment without damage to flange faces.

There is no shock along the pipe line, no danger from flying wedges and no sparks are caused by hammer blows. FLANGE-JACKS eliminate costly shutdowns, making possible fast, economical repairs in hard-to-get-at locations.

Technical data sheet covering Flange-Jacks capacities for all standard flange faces in various pipe classes and the dimensional limitations of special flanges available on request.

Table below indicates Flange-Jacks capacities for standard raised face flanges in widely used cast iron and steel pipe classes.

Sold in Pairs Only

| No. | Capacity — Standard Raised Face Flanges | | | | Weight Per Pair | No. |
|-----------|---|------------------|----------------------|------------------|-----------------------|-----------|
| | 125 lb. Cast Iron | 150 lb. Steel | 250 lb. Cast Iron | 300 lb. Steel | | |
| 20 | 2" to 20" | 2" to 20" | 1" to 12" | ¾" to 12" | 13 | 20 |
| 30 | 16" to 48" | 18" to 24" | 12" to 30" | 12" to 24" | 45 | 30 |

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WILLIAMS' LATHE TOOL SETS

"THE HOLDERS THAT HOLD"

Convenient—Efficient—Economical

The Six "always ready" Sets illustrated below, provide for complete Lathe service — Turning, Boring, Knurling, Threading, Cutting-Off and Side work — in a minimum number of tools, unequalled elsewhere — High Speed Cutters and Wrenches are provided throughout. Strong steel case has convenient compartments for Holders, Cutters and Wrenches.



Williams' Knurling-Tools Nos. 00-K to 2-K have self-centering heads, with ONE pair of Knurls for fine, medium, or coarse work. Unless otherwise specified, "Diamond" Pattern, Medium Knurls will be supplied.

ONE Williams' Holder takes BOTH cutting-off and side blades. A tool that performs both classes of work by the mere substitution of suitable cutters, tells its own story of economy. Both Cutting-off and Side Blades are furnished.

Each Williams' Boring-Tool takes SIX or more sizes of Bars WITHOUT using bushings. ONE tool holds MANY Bars. Two styles of Bars—"Sleeve" as illustrated and "Plain" at lower price.

Williams' Turning-Tools have Large Alloy Steel Screw—heat-treated, unbreakable. Their accurately broached hole provides rigid seat for cutter—no chatter, no breakage.

Williams' Threading-Tools Nos. 00-T to 52 with Formed Cutter assure threads that fit perfectly. In resharpening the Cutter, grind its top edge only. The point will always retain the proper form and angle.

Williams' Sleeve Boring-Bar fastening provides for the rapid adjustment of either straight or angular cutters without use of extra parts. It is stronger than others of same general design.

Be careful to measure the opening in tool-post before ordering Sets. Due to a considerable variation in the proportions of lathes as furnished by different manufacturers, it is impossible to state definitely the "swing" of lathe best adapted to a given size Tool Holder.

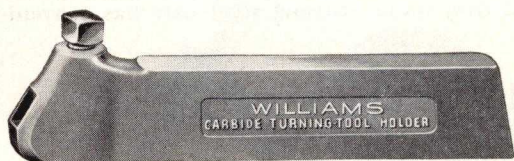
| Set No. | For Lathes of Approx. Swing Inches | WILLIAMS' TOOL HOLDERS IN SETS | | | | | | | | | | Quantity of Tools in Set | Weight Each, Lbs |
|---------|------------------------------------|--------------------------------|--------------------|--------------|-----------|----------------------------|--------------|-----------|--------------------|-----------------|-------------------|--------------------------|------------------|
| | | Size of Holder Shank | Turning Tools | | | Cutting-off and Side Tools | | | Threading Tool No. | Boring Tool No. | Knurling Tool No. | | |
| | | | Straight Shank No. | Offset Shank | | Straight Shank No. | Offset Shank | | | | | | |
| | | | | R. H. No. | L. H. No. | | R. H. No. | L. H. No. | | | | | |
| 00A | 7 to 10 | 5/16 x 3/4 | 00-S | 00-R | 00-L | 19 | 29-R | 29-L | 00-T | 00-B | 00-K | 9 | 5.6 |
| 0A | 10 to 12 | 3/8 x 7/8 | 0-S | 0-R | 0-L | 20 | 30-R | 30-L | 50 | 8 | 0-K | 9 | 8.6 |
| 1A | 14 to 16 | 1/2 x 1-1/8 | 1-S | 1-R | 1-L | 21 | 31-R | 31-L | 51 | 9 | 1-K | 9 | 16. |
| 2A | 16 to 18 | 5/8 x 1-3/8 | 2-S | 2-R | 2-L | 22 | 32-R | 32-L | 52 | 10 | 2-K | 9 | 25. |
| *3 | 18 to 20 | 3/4 x 1-5/8 | 3-S | 3-R | 3-L | 23 | 33-R | 33-L | .... | 11 | .... | 7 | 34.5 |
| *4 | 24 to 36 | 7/8 x 1-3/4 | 4-S | 4-R | 4-L | 24 | 34-R | 34-L | .... | .... | .... | 6 | 32. |

* Metal case is not supplied with Sets 3 and 4.

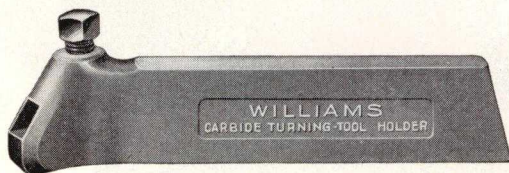
WILLIAMS' CARBIDE TURNING-TOOL HOLDERS

With Straight and Offset Shanks

"THE HOLDERS THAT HOLD"



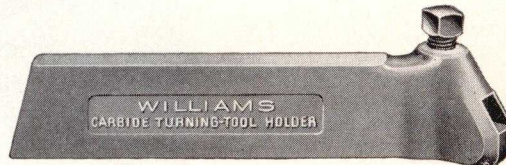
Straight
Shank



Right Hand
Offset
Shank

Furnished with Wrench,
but *without* Cutter

Left Hand
Offset
Shank



In these Tools, the Cutter is held parallel to the shank. Consequently, Cutters can be so ground as to provide maximum support for the cutting edge. This feature, plus the extremely rigid Holder, is the recognized basis for the best performance of cemented Carbide Cutters.

Holders are broached for square Carbide Cutters, but are supplied **WITHOUT CUTTERS**.

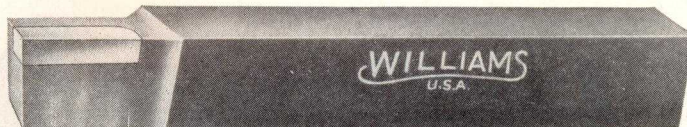
Williams' Carbide Tipped Cutters, for use with the above holders, are available in two grades and four standard shapes of tips. See opposite page for full description.

| Number | | | Holder, Size | Cutter Size, Square | For Lathes of Approx. Swing, Inches | Weight Each, Lbs. |
|-------------------|---------------|--------------|------------------|------------------------|---|-------------------------|
| Straight Shank | Offset Shank | | | | | |
| | Right Hand | Left Hand | | | | |
| T-0-S | T-0-R | T-0-L | 3/8 x 15/16 x 6 | 1/4 | 9 to 10 | .71 |
| T-1-S | T-1-R | T-1-L | 1/2 x 1 1/4 x 7 | 5/16 | 11 to 14 | 1.5 |
| T-2-S | T-2-R | T-2-L | 5/8 x 1 1/2 x 8 | 3/8 | 14 to 16 | 2.4 |
| T-3-S | T-3-R | T-3-L | 3/4 x 1 3/4 x 9 | 7/16 | 16 | 3.7 |
| T-4-S | T-4-R | T-4-L | 7/8 x 1 7/8 x 10 | 1/2 | 18 | 5. |
| T-5-S | T-5-R | T-5-L | 1 x 2 1/8 x 12 | 5/8 | 20 to 24 | 8.2 |

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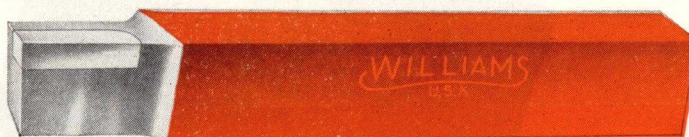
WILLIAMS' CARBIDE TIPPED TURNING CUTTER BITS

With Square Shanks



Grade 883
Gray Lacquered

Grade 78B
Orange Lacquered



80° Round Nose



Left Hand



Right Hand



Square Nose

Williams' CARBIDE TIPPED Turning Cutter Bits are available in four standard cutter shapes and two grades to fit square shank holders. Grade 883 with shanks lacquered Gray are designed for machining cast iron, brass, bronze, aluminum and non-metallics. Grade 78B with shanks lacquered Orange are designed for machining steel. These grades will be found satisfactory for general shop use; Gray for all non-ferrous metals, etc. and Orange for all steels.

These firmly cemented carbide tips are finely ground ready for use and are individually covered with a protective ethyl cellulose sheath. This sheath is easily removed and can be replaced when cutters are not in use.

Please specify Grade desired when ordering: Gray for Cast Iron, etc., Orange for Steel.

| SQUARE SHANK TURNING CUTTERS | | | | | |
|------------------------------|--------------|---------------------|--------------------|-----------|-----------|
| No. | No. | | | | |
| Right Hand | Left Hand | Shank Size | Tip Size | Wgt., Ea. | Std. Pkg. |
| M-41 | M-71 | 1/4 x 1/4 x 1-1/2 | 3/32 x 3/16 x 5/16 | .03 | 6 |
| M-42 | M-72 | 5/16 x 5/16 x 2-1/4 | 3/32 x 1/4 x 1/2 | .06 | 6 |
| M-43 | M-73 | 3/8 x 3/8 x 2-1/2 | 3/32 x 1/4 x 1/2 | .07 | 6 |
| M-44 | M-74 | 7/16 x 7/16 x 3 | 3/32 x 1/4 x 1/2 | .16 | 4 |
| M-45 | M-75 | 1/2 x 1/2 x 3-1/2 | 1/8 x 5/16 x 5/8 | .25 | 4 |
| M-47 | M-77 | 5/8 x 5/8 x 4 | 5/32 x 3/8 x 3/4 | .44 | 4 |
| Square Nose | 80° Rd. Nose | Shank Size | Tip Size | Wgt., Ea. | Std. Pkg. |
| M-11 | M-121 | 1/4 x 1/4 x 1-1/2 | 1/16 x 1/4 x 5/16 | .03 | 6 |
| M-12 | M-122 | 5/16 x 5/16 x 2-1/4 | 3/32 x 5/16 x 3/8 | .06 | 6 |
| M-13 | | 3/8 x 3/8 x 2-1/2 | 3/32 x 3/8 x 3/8 | .07 | 6 |
| | M-123 | 3/8 x 3/8 x 2-1/2 | 3/32 x 3/8 x 1/2 | .07 | 6 |
| M-14 | M-124 | 7/16 x 7/16 x 3 | 3/32 x 7/16 x 1/2 | .16 | 4 |
| M-15 | | 1/2 x 1/2 x 3-1/2 | 1/8 x 1/2 x 1/2 | .25 | 4 |
| | M-125 | 1/2 x 1/2 x 3-1/2 | 1/8 x 1/2 x 9/16 | .25 | 4 |
| M-17 | M-127 | 5/8 x 5/8 x 4 | 5/32 x 5/8 x 5/8 | .44 | 4 |

WILLIAMS' CARBIDE TURNING-TOOL HOLDER SETS

IN THE METAL CASE WITH THE CONVENIENT
SLIDING AND REMOVABLE CUTTER BIT TRAY



All sets contain three Carbide Turning-Tool Holders, eight Carbide Tipped Cutter Bits, and one wrench.

The five Williams' Carbide Turning-Tool Holder Sets each contain one Straight Shank, one Right-Hand Offset and one Left-Hand Offset Carbide Turning-Tool Holder; eight Carbide Tipped Turning Cutter Bits—four Grade 883 with shanks lacquered gray for non-ferrous metals and four Grade 78B with shanks lacquered orange for steel. Both grades are furnished with one each Right Hand, Left Hand, Square Nose and 80° Round Nose Cutters.

Each set is furnished in a strong steel case complete with wrench. The cutters are packed in a removable tray for easy selection as illustrated.

WILLIAMS' CARBIDE TOOL HOLDERS IN SETS

| Set No. | For Lathes of Approx. *Swing Inches | Carbide Turning Tools | | | Size of Holder Shank | Cutter Size Square Inches | Weight Each, Lbs. | Carbide Tipped Turning Cutter Bits | | | | | | | |
|---------|-------------------------------------|-----------------------|----------------|---------------|----------------------|---------------------------|-------------------|------------------------------------|---------------|-----------------|------------------|-------------------------|---------------|-----------------|------------------|
| | | Strgt. Shank No. | Offset Shank | | | | | Grade 883 Gray Shanks | | | | Grade 78B Orange Shanks | | | |
| | | | Right Hand No. | Left Hand No. | | | | Right Hand No. | Left Hand No. | Square Nose No. | 80° Rd. Nose No. | Right Hand No. | Left Hand No. | Square Nose No. | 80° Rd. Nose No. |
| M-0A | 10 to 12 | T-0-S | T-0-R | T-0-L | 3/8x 15/16 | 1/4 | 3.1 | M-41 | M-71 | M-11 | M-121 | M-41 | M-71 | M-11 | M-121 |
| M-1A | 14 to 16 | T-1-S | T-1-R | T-1-L | 1/2x1-1/4 | 5/16 | 5.8 | M-42 | M-72 | M-12 | M-122 | M-42 | M-72 | M-12 | M-122 |
| M-2A | 16 to 18 | T-2-S | T-2-R | T-2-L | 5/8x1-1/2 | 3/8 | 9.2 | M-43 | M-73 | M-13 | M-123 | M-43 | M-73 | M-13 | M-123 |
| M-3A | 18 to 20 | T-3-S | T-3-R | T-3-L | 3/4x1-3/4 | 7/16 | 13.3 | M-44 | M-74 | M-14 | M-124 | M-44 | M-74 | M-14 | M-124 |
| M-4A | 24 to 36 | T-4-S | T-4-R | T-4-L | 7/8x1-7/8 | 1/2 | 18.9 | M-45 | M-75 | M-15 | M-125 | M-45 | M-75 | M-15 | M-125 |

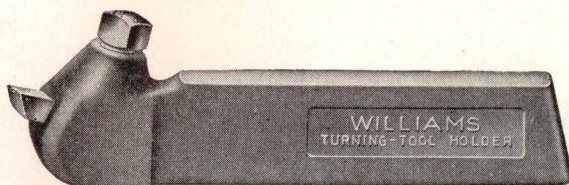
* Be careful to measure the opening in tool-post before ordering Sets. Due to a considerable variation in the proportion of lathes as furnished by different manufacturers, it is impossible to state definitely the "swing" of lathe best adapted to a given size Tool Holder.

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WILLIAMS' TURNING-TOOL HOLDERS

With Straight and Offset Shanks

"THE HOLDERS THAT HOLD"



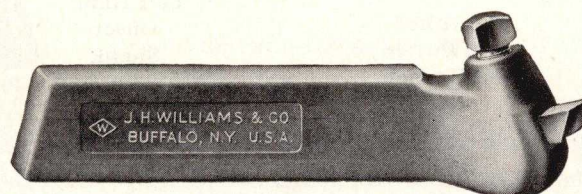
Straight
Shank



Right Hand
Offset
Shank

Furnished With Cutter
and Wrench

Left Hand
Offset
Shank



Holders have nose chamfered and are specially heat-treated and hardened.

The cutter-holding channel is unusually accurate and long. It provides an absolutely true and rigid seat for the cutter and assures a chatter-proof tool. No breaking of high speed steel bits.

The Set Screws, made of a fine grade of Alloy Steel, are accurately machined and carefully heat-treated and hardened. They are unusually tough and strong and provide the maximum efficiency in cutter fastening.

High Speed Cutters are furnished in a "diamond-point" form that requires a minimum of grinding.

| Number | | | Holder, Size | Cutter Size, Square | For Lathes of Approx. Swing Inches | Weight Each, Lbs. |
|-------------------|---------------|--------------|--------------------|------------------------|--|-------------------------|
| Straight Shank | Offset Shank | | | | | |
| | Right Hand | Left Hand | | | | |
| 000-S | 000-R | 000-L | 5/16 x 1/2 x 4 | 3/16 | 6 to 7 | .31 |
| 00-S | 00-R | 00-L | 5/16 x 3/4 x 4 1/2 | 3/16 | 7 to 10 | .44 |
| 0-S | 0-R | 0-L | 3/8 x 7/8 x 5 | 1/4 | 10 to 12 | .67 |
| 1-S | 1-R | 1-L | 1/2 x 1 1/8 x 6 | 5/16 | 14 to 16 | 1.3 |
| 2-S | 2-R | 2-L | 5/8 x 1 3/8 x 7 | 3/8 | 16 to 18 | 2.1 |
| 3-S | 3-R | 3-L | 3/4 x 1 5/8 x 8 | 7/16 | 18 to 20 | 3.3 |
| 4-S | 4-R | 4-L | 7/8 x 1 3/4 x 9 | 1/2 | 24 to 36 | 4.8 |
| 5-S | 5-R | 5-L | 1 x 2 x 11 | 5/8 | ..... | 7.7 |
| 6-S | 6-R | 6-L | 1 1/4 x 2 1/4 x 13 | 3/4 | ..... | 12.2 |

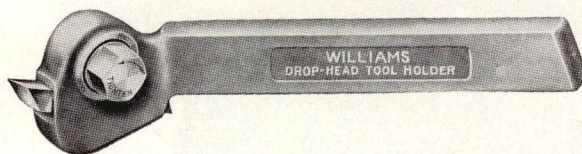
WILLIAMS' DROP-HEAD TURNING-TOOL HOLDERS

With Straight and Offset Shanks

"THE HOLDERS THAT HOLD"



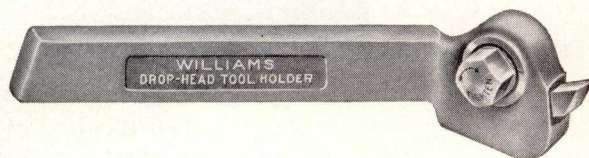
Straight
Shank



Right Hand
Offset
Shank

Furnished
with Cutter
and Wrench

Left Hand
Offset
Shank



Designed for use on lathes with clamp-tool rests and low centers, and excellently adapted to shaper and planer work.

The cutter-holding channel is unusually accurate. It provides an absolutely true and rigid seat for the cutter and assures a chatter-proof tool. No breaking of high speed steel bits.

The Cam-fastening is always rapid and positive — the greater the pressure the tighter the lock. It offers full freedom for operation without removal of Holder from tool post, and imposes no obstruction to cutting facilities.

The "diamond-point" form in which the High Speed Cutters are furnished requires the minimum of grinding.

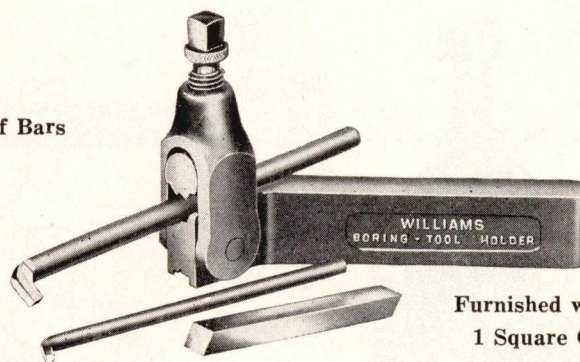
| Straight Shank | | Offset Shank | | | | Holder, Size | Cutter Size, Square | Height from Bottom of Shank to Cutter Point | Weight Each, Lbs. |
|----------------|---------|--------------|---------|-----------|---------|----------------------|---------------------|---|-------------------|
| | | Right Hand | | Left Hand | | | | | |
| New No. | Old No. | New No. | Old No. | New No. | Old No. | | | | |
| 100-S | 0200-S | 100-R | 0200-R | 100-L | 0200-L | 7/16 x 9/16 x 6 | 3/16 | 9/16 | .56 |
| 101-S | 200-S | 101-R | 200-R | 101-L | 200-L | 9/16 x 11/16 x 6 7/8 | 1/4 | 11/16 | 1. |
| 201-S | 201-S | 201-R | 201-R | 201-L | 201-L | 3/4 x 7/8 x 7 7/8 | 5/16 | 13/16 | 1.8 |
| 102-S | 202-S | 102-R | 202-R | 102-L | 202-L | 7/8 x 1 x 8 7/8 | 3/8 | 15/16 | 2.8 |
| 103-S | 204-S | 103-R | 204-R | 103-L | 204-L | 1 1/8 x 1 1/4 x 11 | 1/2 | 1 3/16 | 5.4 |

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WILLIAMS' LIGHT BORING-TOOL HOLDERS

FOR SMALL, LIGHT BORING, TURNING, ETC.

For Many Sizes of Bars



Furnished with 2 Finished Bars,
1 Square Cutter and Wrench

This Holder is very handy and economical for tool room use and for all small work—not only in boring small diameters, threading, etc., but also in turning.

Boring. Each tool will hold a number of sizes of Bars; two, varying 1/8" in diameter, are supplied with each Holder. The solid Bars are High Speed Steel, carefully hardened and ground, ready for use.

Turning. The Holder, with offset shank, is reversible for right and left hand work. The self-adjusting gib allows the yoke to clear the end of the Holder. A hardened, High Speed Steel square Cutter with ends beveled to a "diamond point" for easy grinding to desired form, is supplied with each tool.

| No. | Holder Size Shank | With Each Holder | | For Lathes of Approx. Swing Inches | Weight Each, Lbs. | No. |
|-----|----------------------|---|----------------------------------|--|-------------------------|-----|
| | | 2 Bars High Speed Steel, Diameter | 1 High Speed Square Cutter | | | |
| 15 | 3/8 x 3/4 x 5 | 1/8 & 1/4 | 1/4 | 9 to 10 | .88 | 15 |
| 16 | 1/2 x 1 x 5 3/4 | 3/16 & 5/16 | 5/16 | 11 to 14 | 1.6 | 16 |
| 17 | 5/8 x 1 1/4 x 6 3/4 | 1/4 & 3/8 | 3/8 | 14 to 16 | 2.8 | 17 |
| 18 | 3/4 x 1 1/2 x 7 1/2 | 5/16 & 7/16 | 7/16 | 16 | 4.6 | 18 |

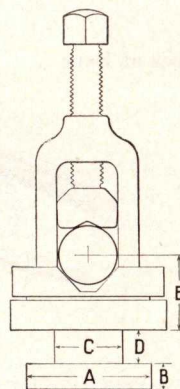
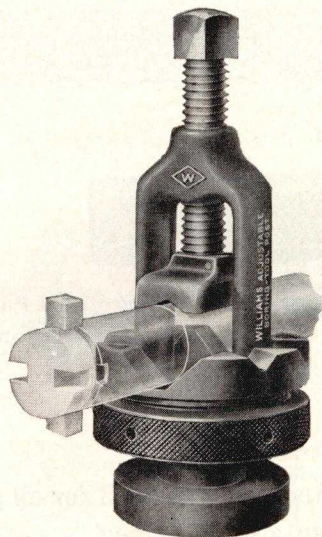
EXTRA BORING BARS

| | | | | | | |
|------------------|---------|--------------|----------|----------|----------|----------|
| Size..... | 1/8 x 4 | 3/16 x 4-1/2 | 1/4 x 5 | 5/16 x 6 | 3/8 x 7 | 7/16 x 8 |
| For Holders..... | 15 & 16 | 15 to 17 | 15 to 17 | 15 to 18 | 16 to 18 | 17 & 18 |

WILLIAMS' ADJUSTABLE BORING-TOOL POSTS

FOR MANY SIZES OF BARS

Furnished with either Sleeve or Plain Bar, 1 each 45° and 90° Cutter and 2 Wrenches



Each Post accommodates a wide range of Bars; commercial sizes of bar steel are adaptable for either Bars or Cutters without machining.

The height of the Bar is easily and quickly adjusted — a turn of the Knurled Ring will raise or lower the base on which the Bar rests; tightening the Set Screw in the head of the Post then locks the whole device instantly, giving an extremely rigid tool.

If Post is desired *without* the Bar, deduct price for standard size Bar.

Standard size Sleeve Bar will be furnished, unless otherwise specified.

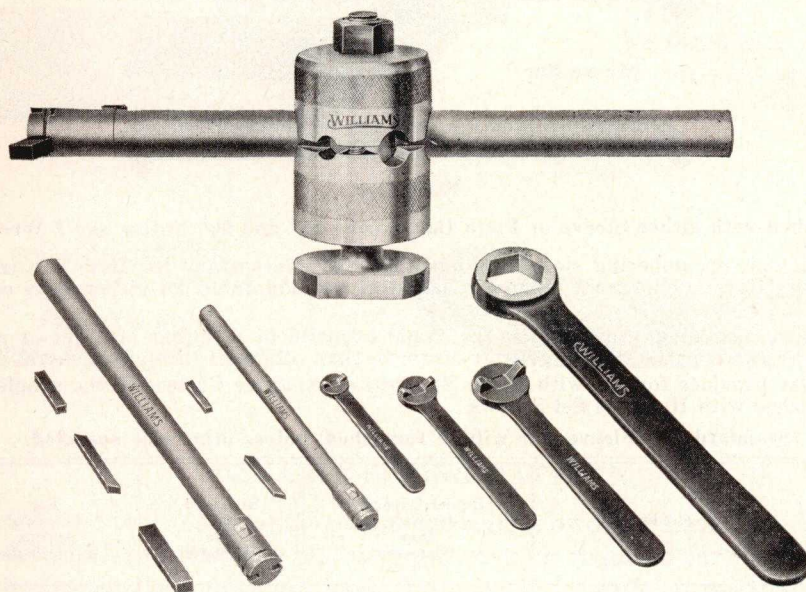
| Number | 2 | 3 | 4 | 5 |
|--|---------------|--------------|----------------|--------------|
| Post—Length over all, without Screw..... | 6 5/8 | 7 5/8 | 9 1/8 | 11 1/8 |
| †“T” Slot Flange: | | | | |
| A Diameter..... | 3 | 3 1/2 | 4 1/4 | 5 |
| B Thickness..... | 5/8 | 3/4 | 7/8 | 1 1/16 |
| †“T” Slot Neck: | | | | |
| C Diameter..... | 1 5/8 | 1 3/4 | 2 | 2 1/4 |
| D Length..... | 3/4 | 13/16 | 1 | 1 1/4 |
| E Center Height..... | 1 13/16 | 1 7/8 | 2 3/8 | 2 3/4 |
| Post Capacity for Bars—Size..... | 1/2 to 1 5/16 | 1/2 to 1 1/2 | 5/8 to 1 13/16 | 3/4 to 2 1/4 |
| Standard Bar—Size..... | 1 5/16 | 1 1/2 | 1 13/16 | 2 1/4 |
| Weight Each, Lbs. | | | | |
| With Sleeve Bar, High Speed Cutters..... | 15. | 24.1 | 39.5 | 69.1 |

† The “T” Slot Flange and Neck are furnished large to allow for fitting to individual machines. For special finishing to specified dimensions, an extra net charge for each Post will be made.

Bar and Cutter details on page 172

WILLIAMS' 3-BAR BORING TOOLS

"THE HOLDERS THAT HOLD"



Each Holder accommodates three sizes of Bars. Speedy changes can be made by a slight turn of the nut which releases or secures both Bar and Holder instantly. Speeds and feeds can be increased since this Holder allows the operator to use the strongest bar possible for each individual job.

Williams' 3-Bar Boring Tools are packed complete in a separate box, each set including Holder; three Sleeve Bars each with one 45° and one 90° high speed cutter and wrench; and one wrench for Holder nut.

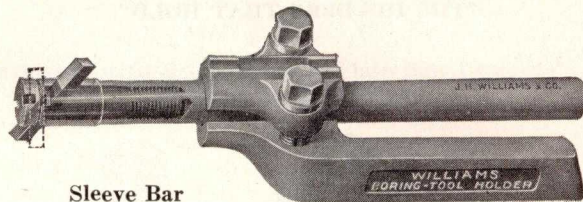
| No. | For Lathes Swing Inches | Diameter Bars | Length of Bars | Size Cutters, Square | Weight Each, Lbs. | No. |
|-------------|----------------------------------|------------------------|---------------------|-------------------------|-------------------------|-------------|
| 0-BB | 8 to 10 | 3/8 , 1/2 , 3/4 | 7 , 7-5/8, 11 | * , 3/16, 1/4 | 5.2 | 0-BB |
| 1-B | 12 to 16 | 1/2 , 3/4 , 1- 1/8 | 7-5/8, 11 , 16 | 3/16, 1/4 , 3/8 | 18. | 1-B |
| 2-B | 16 to 18 | 5/8 , 15/16, 1- 5/16 | 9-1/8, 13-1/4, 19 | 3/16, 5/16, 3/8 | 25.9 | 2-B |
| 3-B | 20 to 22 | 3/4 , 1-1/8 , 1- 1/2 | 11 , 16 , 23-1/4 | 1/4 , 3/8 , 7/16 | 42.4 | 3-B |
| 4-B | 24 to 32 | 15/16, 1-5/16, 1-13/16 | 13-1/4, 19 , 27-1/4 | 5/16, 3/8 , 1/2 | 68. | 4-B |

* 3/8 x 7" Solid Bar as listed under "Extra Boring Bars" on page 169.

The "T" Slot Bolt Head and Bottom Part of Holder are furnished large to allow for fitting to individual machines. For special finishing to specified dimensions an extra net charge for each Holder will be made.

WILLIAMS' BORING-TOOL HOLDERS

EACH TAKES MANY SIZES OF BARS



Sleeve Bar



Plain Bar

Furnished with either Sleeve or Plain Bar, 1 each 45° and 90° Cutter and 2 Wrenches

With this Holder, encumbering sleeves or bushings are unnecessary for Bars of various sizes; One Holder takes *many* Bars. Commercial forms of bar steel are adaptable for either Bars or Cutters without machining.

The Sleeve-bar fastening provides for the rapid adjustment of either straight or angular Cutters without the use of extra parts; it has greater strength than others of the same general design.

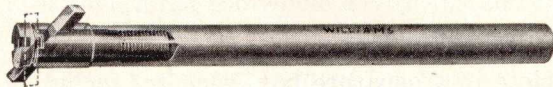
The Plain Bar provides for use with either Straight or Angular Cutters in the simplest manner possible and is furnished with Headless Set Screws.

Standard size Sleeve Bar will be furnished, unless otherwise specified.

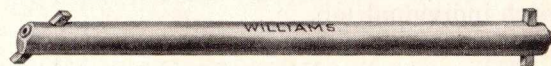
| New No. | Old No. | Holder, Size | Holder Capacity for Bars, Size Diameter | Standard Bar, Size Diameter | For Lathes of Approx. Swing Inches | Weight Each, Lbs. |
|------------|---------|--------------|---|-----------------------------|------------------------------------|-------------------|
| 00B | 080 | 5/16 x 3/4 | 3/16 to 1/2 | 1/2 | 6 to 8 | 1.2 |
| 8 | 80 | 3/8 x 7/8 | 1/4 to 5/8 | 5/8 | 9 to 10 | 2. |
| 9 | 81 | 1/2 x 1 1/8 | 1/4 to 3/4 | 3/4 | 11 to 14 | 3.8 |
| 10 | 82 | 5/8 x 1 3/8 | 3/8 to 15/16 | 15/16 | 14 to 16 | 6.6 |
| 11 | 83 | 3/4 x 1 5/8 | 1/2 to 1 1/8 | 1 1/8 | 16 | 11. |
| 12 | ..... | 7/8 x 1 3/4 | 1 5/16 | 1 5/16 | 18 | 16. |

BORING-BARS AND CUTTERS

FOR BORING-TOOL HOLDERS AND ADJUSTABLE BORING-TOOL POSTS



Sleeve Bar



Plain Bar

Furnished with Two Cutters and Wrench

| Boring-Bars Approximate Size and Number | | | | | | For Use With Holders No. | Cutters | |
|--|------------------|-----------|-------|----------------|-----------|-----------------------------------|--------------------------------|-------------------------------|
| Sleeve | | | Plain | | | | Size Square and Length | For Use at Angles of |
| No. | Size | Wgt. Each | No. | Size | Wgt. Each | | | |
| 0B | 1/2 x 7 5/8 | .45 | 0-BX | 1/2 x 8 1/8 | .44 | 00B-11 | { 3/16 x 1 3/16 x 1 1/2 | 90° 45° |
| 08 | 5/8 x 9 1/8 | .91 | 08-X | 5/8 x 10 1/8 | .88 | 8-11 | { 3/16 x 1 3/16 x 1 1/2 | 90° 45° |
| 09 | 3/4 x 11 | 1.5 | 09-X | 3/4 x 12 1/8 | 1.5 | 9-11 | { 1/4 x 1 1/4 1/4 x 2 | 90° 45° |
| 010 | 15/16 x 13 1/4 | 2.9 | 010-X | 15/16 x 14 1/8 | 2.8 | 10-11 | { 5/16 x 1 1/2 5/16 x 2 1/2 | 90° 45° |
| 011 | 1 1/8 x 16 | 4.9 | 011-X | 1 1/8 x 16 3/4 | 4.8 | 11 | { 3/8 x 1 7/8 3/8 x 3 | 90° 45° |
| 012 | 1 5/16 x 19 | 7.6 | 012-X | 1 5/16 x 20 | 7.5 | 12 | { 3/8 x 2 1/8 3/8 x 3 1/4 | 90° 45° |
| 013 | 1 1/2 x 23 1/4 | 12.1 | 013-X | 1 1/2 x 23 1/2 | 12. | | { 7/16 x 2 1/4 7/16 x 3 3/8 | 90° 45° |
| 014 | 1 13/16 x 27 1/4 | 20.4 | 014-X | 1 13/16 x 28 | 20.6 | | { 1/2 x 2 5/8 1/2 x 4 | 90° 45° |
| 015 | 2 1/4 x 33 | 38.8 | 015-X | 2 1/4 x 34 | 38.8 | | { 5/8 x 3 1/8 5/8 x 4 3/4 | 90° 45° |

Light Boring Bars and Holders on page 169.

WILLIAMS' THREADING-TOOL HOLDERS

"THE HOLDERS THAT HOLD"



**LOCKABLE-SPRING HEAD
PATTERN**
Furnished with
Finished Cutter and Wrench

**FORMED-CUTTER
PATTERN**
Furnished with
Finished Cutter and Wrench



LOCKABLE-SPRING PATTERN

A highly perfected tool for fine and coarse threading, or other Lathe work. The Nut for the Lockable-Spring Head provides for the rigid backing required for heavy cuts; when it is loosened, the Holder becomes a spring-tool for finishing work. It is equally efficient as a Turning-tool. The Cam-fastening is always rapid and positive—the greater the pressure, the tighter the lock.

The cutter, made from High Speed steel, is finished. Each end is ground, the "V" point forming either an angle of 60° for U. S., or 55° for Whitworth Std. threads.

FORMED-CUTTER PATTERN

Williams' Threading-Tools with FORMED CUTTER assure threads that fit perfectly, since in re-sharpening the Cutter, it is necessary to grind its top edge only. Therefore, the point will always retain proper form and angle as originally supplied.

The High Speed Cutter is ground to an included angle of 60° and is backed off for proper clearance. Its rear, flat edge is eccentrically formed; the hardened stop screw, bearing against it, provides positive and accurate adjustment.

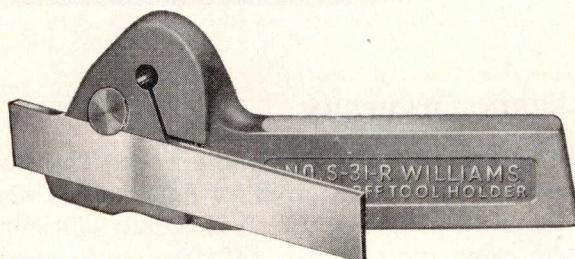
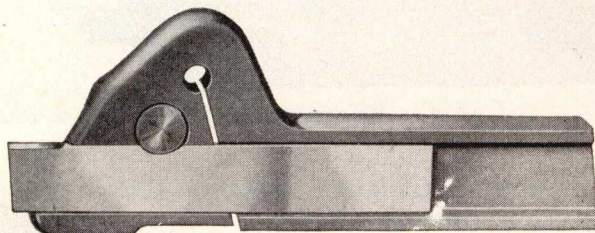
| New No. | Old No. | Holder, Size | Cutter, Size Square | For Lathes of Approx. Swing Inches | Weight Each, Lbs. |
|--------------------------------|---------|---------------------|---------------------|------------------------------------|-------------------|
| LOCKABLE-SPRING PATTERN | | | | | |
| S-50 | ..... | 3/8 x 7/8 x 5 1/4 | 1/4 | 10 to 12 | .75 |
| S-51 | ..... | 1/2 x 1 1/8 x 6 | 5/16 | 14 to 16 | 1.5 |
| S-52 | ..... | 5/8 x 1 3/8 x 7 | 3/8 | 16 to 18 | 2.5 |
| FORMED-CUTTER PATTERN | | | | | |
| 00-T | C-050 | 5/16 x 3/4 x 5 | Formed | 7 to 10 | .61 |
| 50 | C-50 | 3/8 x 7/8 x 5 | Formed | 10 to 12 | .8 |
| 51 | C-51 | 1/2 x 1 1/8 x 5 3/4 | Formed | 14 to 16 | 1.3 |
| 52 | C-52 | 5/8 x 1 3/8 x 7 | Formed | 16 to 18 | 2.3 |
| 53 | ..... | 3/4 x 1 5/8 x 8 | Formed | 18 to 20 | 3.3 |

WILLIAMS' SPRING CUTTING-OFF TOOL HOLDERS

With Straight and Right Hand Offset Shanks

"THE HOLDERS THAT HOLD"

Straight
Shank



Right Hand
Offset Shank

Furnished with Finished Cutter and Wrench

These Spring Tools make comparatively simple all lathe cutting-off work—long thought the hardest of lathe operations. Due to the "goose-neck" form of the Holder, the Cutter Blade is relieved of excess pressure; no chattering, no "climbing" of the work on the tool—the real cause of nearly all breakage of cutting-off tools. These Holders are also particularly efficient with automatic feed.

The cam-fastening is always rapid and positive—the greater the pressure the tighter the lock. It offers full freedom for operation without removal of Holder from tool post.

Cutter Blades are High Speed Steel, hardened and ground on both ends ready for use. By reversing the blade end for end it can be used in either Left or Right Hand Offset Shanks. They are interchangeable in Holders of corresponding size on Page 175.

These Cut-off Blades are interchangeable in other standard Holders.

Straight Shank Holders will be furnished, unless otherwise specified.

| Number | | | | Holder, Size | Cutter Blades, High Speed Steel, Finished Size | For Lathes of Approx. Swing Inches | Weight Each, Lbs. |
|-------------------|---------|----------------------------|----------|--------------|--|--|-------------------------|
| Straight Shank | | Offset Shank Right Hand | | | | | |
| New No. | Old No. | New No. | Old No. | | | | |
| S-20 | NS-20 | S-30-RA | NS-30-RA | 3/8 x 13/16 | 3/32 x 5/8 | 9 to 10 | .84 |
| S-21 | NS-21 | S-30-R | NS-30-R | 3/8 x 31/32 | 3/32 x 5/8 | 9 to 10 | .85 |
| S-22 | NS-22 | S-31-R | NS-31-R | 1/2 x 1 3/16 | 1/8 x 3/4 | 11 to 14 | 1.6 |
| S-23 | NS-23 | S-32-R | NS-32-R | 5/8 x 1 3/8 | 1/8 x 7/8 | 14 to 16 | 2.6 |
| | | S-33-R | NS-33-R | 3/4 x 1 5/8 | 3/16 x 1 | 16 | 4.1 |

WILLIAMS' CUTTING-OFF AND SIDE-TOOL HOLDERS

For Interchangeable Blades, Straight and Offset Shanks.

"THE HOLDERS THAT HOLD"

Right Hand
Straight
Shank



Left Hand
Offset
Shank



Furnished with
Finished Cutter and Wrench



Right Hand
Offset
Shank

One Holder takes **both** Cutting-off and Side Blades, providing unique convenience and economy.

The Cam-fastening is always rapid and positive — the greater the pressure the tighter the lock. It offers full freedom for operation without removal of Holder from tool post.

The Cutter Blades are High Speed Steel hardened and ground on both ends ready for use. By reversing the blade end for end it can be used in either Left or Right Hand Offset Shanks. They are interchangeable in Holders of corresponding size on page 174.

These Cut-off Blades (not Side) are interchangeable in other standard Holders.

Cutting-off Blade will be furnished, unless otherwise specified.

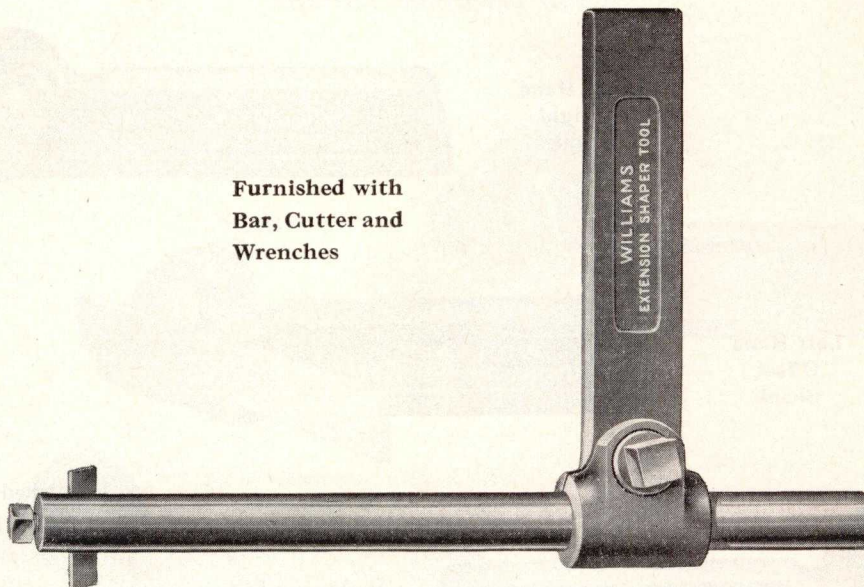
| Number | | | Holder, Size | Cutter Blades High Speed Steel, Finished Size | | For Lathes of Approx. Swing Inches | Weight Each, Lbs. |
|------------------------------------|---------------|--------------|---------------|--|---------------|--|-------------------------|
| Straight Shank Right Hand | Offset Shank | | | Cutting-Off Blade | Side Blade | | |
| | Right Hand | Left Hand | | | | | |
| 19 | 29-R | 29-L | 5/16 x 13/16 | 3/32 x 1/2 | 1/8 x 1/2 | 6 to 8 | .47 |
| 20 | 30-R | 30-L | 3/8 x 31/32 | 3/32 x 5/8 | 5/32 x 5/8 | 9 to 10 | .73 |
| 21 | 31-R | 31-L | 1/2 x 1- 3/16 | 1/8 x 3/4 | 3/16 x 3/4 | 11 to 14 | 1.4 |
| 22 | 32-R | 32-L | 5/8 x 1- 3/8 | 1/8 x 7/8 | 1/4 x 7/8 | 14 to 16 | 2.2 |
| 23 | 33-R | 33-L | 3/4 x 1- 5/8 | 3/16 x 1 | 5/16 x 1 | 16 | 3.5 |
| 24 | 34-R | 34-L | 7/8 x 1- 3/4 | 3/16 x 1-1/8 | 3/8 x 1-1/8 | 18 | 4.7 |
| 25 | 35-R | 35-L | 7/8 x 1- 3/4 | 1/4 x 1-1/8 | ..... | 18 | 5. |

Note: Old Numbers had prefix "N". Numbers 19, 29-R and 29-L were previously known as N-020-R, N-030-R and N-030-L respectively.

WILLIAMS' EXTENSION SHAPER TOOLS

"THE HOLDERS THAT HOLD"

Furnished with
Bar, Cutter and
Wrenches



The design and extreme rigidity of this Shaper Tool adapts it for cutting internal key-ways, die work or any type of shaper work where extra clearance is needed.

| No. | Holder, Size | Size Bar | Size Cutter, Square | Weight Each, Lbs. | No. |
|-----|-----------------|-------------|------------------------|-------------------------|-----|
| *46 | 3/8 x 7/8 | 1/2 x 7 1/2 | 3/16 | 1.1 | *46 |
| 47 | 1/2 x 1 1/8 | 3/4 x 10 | 5/16 | 3.3 | 47 |
| 48 | 5/8 x 1 3/8 | 15/16 x 12 | 3/8 | 6. | 48 |

* Instead of split collar, as illustrated, bar is held by two hollow set screws.

EXTRA BARS AND BUSHINGS

Each Bar furnished with one Bushing, High Speed Cutter and Wrench.

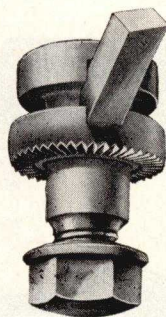
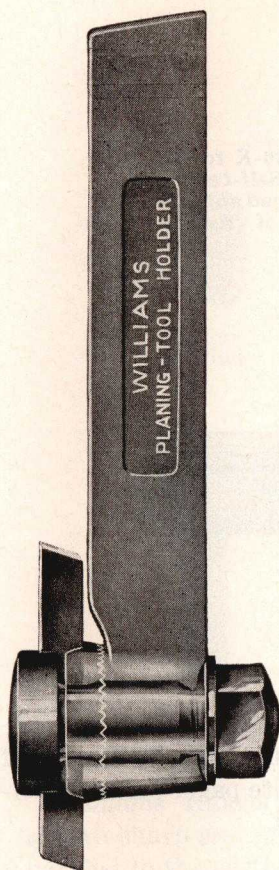
When ordering, please furnish number of Tool or Holder size in which Bar is to be used, otherwise bushing will not be included.

| No. | Size Bar | Size Cutter, Square | With Bushing to Fit Holder Number | Without Bushing to Fit Holder No. | Weight Each, Lbs. |
|------|-------------|---------------------------|---|--|-------------------------|
| 0530 | 1/2 x 7 1/2 | 3/16 | 47 and 48 | 46 | .75 |
| 0532 | 5/8 x 8 1/2 | 1/4 | 47 and 48 | .. | 1.1 |
| 0597 | 3/4 x 10 | 5/16 | 48 | 47 | 1.6 |
| 0598 | 15/16 x 12 | 3/8 | ..... | 48 | 2.7 |

1-52

WILLIAMS' PLANING-TOOL HOLDERS

"THE HOLDERS THAT HOLD"

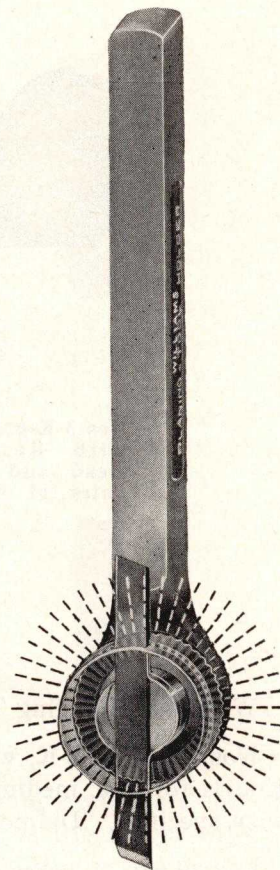


The substantial Bolt-fastening and serrated Adjustment Ring

This construction affords most ready release of Cutter for easy adjustment.

The serrations in Holder provide maximum number of cutter adjustments.

Furnished with Cutter and Wrench



A rugged, substantial and efficient tool on either Lathe or Planer. Because of its numerous angles of adjustment it also makes an excellent Offset Turning Tool.

The construction assures perfect seat and holding qualities for the Cutters; the convex face of Clamp Nut provides uniform locking pressure for Cutters of either square or rectangular form; the numerous serrations in Holder provide for quick, fine and maximum number of Cutter adjustments unequalled in other designs.

The serrated washer, or Adjustment Ring, which sustains the fastening and working strains, is hardened and tempered. Should it wear in prolonged service, a new Ring *only* is required — not a complete Holder.

| New No. | Old No. | Holder, Size | Cutter Size | Complete Holder Weight Each, Lbs. | Extra Adjustment Ring Weight Each, Lbs. |
|---------|---------|----------------------|-------------|-----------------------------------|---|
| 40 | 91 | 1/2 x 1 x 7 | 1/4 x 3/8 | 2.2 | .13 |
| 401 | 92 | 5/8 x 1 1/4 x 8 1/2 | 5/16 x 7/16 | 3.8 | .19 |
| 41 | 93 | 3/4 x 1 1/2 x 10 1/4 | 3/8 x 1/2 | 6. | .25 |
| 42 | 94 | 1 x 1 3/4 x 13 1/4 | 1/2 x 3/4 | 11.1 | .38 |
| 43 | 95 | 1 3/8 x 2 x 16 1/2 | 5/8 x 7/8 | 20.6 | .75 |
| 44 | 96 | 1 3/4 x 2 3/8 x 19 | 3/4 x 1 | 31. | 1.3 |
| 45 | 97 | 2 1/8 x 2 3/4 x 22 | 7/8 x 1 1/8 | 53. | 1.9 |

WILLIAMS' KNURLING-TOOL HOLDERS

"THE HOLDERS THAT HOLD"



Nos. 00-K to 2-K
with Self-center-
ing Head and One
Pair of Knurls.

Nos. 3-K-0 to 3-K-2
with Revolving
Head and Three
Pairs of Knurls.



Williams' Knurling Tools are furnished in two designs:—

Nos. 00-K to 2-K, with sturdy, self-centering heads, are each fitted with ONE pair of Knurls for fine, medium, or coarse work — see illustration on opposite page. Unless otherwise specified, "Diamond" Pattern, Medium Knurls will be supplied.

Nos. 3-K-0 to 3-K-2 carry THREE pairs of Knurls for fine, medium and coarse work —see illustration on following page. These are fitted in a revolving head and can be used as desired, without loss of time in changing from one grade of knurling to another.

The Pins are of Tool Steel, carefully tempered.

The Knurls are fully described on next page.

| No. | Holder, Size | Knurls, Size | | | For Lathes of Approx. Swing Inches | Weight Each, Lbs. | No. |
|--|---------------------|--------------|------|------|---|-------------------------|--------|
| | | Diam. | Face | Hole | | | |
| SELF-CENTERING HEAD — ONE PAIR OF KNURLS | | | | | | | |
| 00-K | 5/16 x 3/4 x 5 | 5/8 | 3/16 | 7/32 | 7 to 10 | .53 | 00-K |
| 0-K | 3/8 x 7/8 x 5 1/2 | 5/8 | 3/16 | 7/32 | 10 to 12 | .63 | 0-K |
| 1-K | 1/2 x 1 1/8 x 6 5/8 | 3/4 | 1/4 | 1/4 | 14 to 16 | 1.3 | 1-K |
| 2-K | 5/8 x 1 3/8 x 7 1/2 | 3/4 | 1/4 | 1/4 | 16 to 18 | 1.9 | 2-K |
| REVOLVING HEAD — THREE PAIRS OF KNURLS | | | | | | | |
| 3-K-0 | 3/8 x 7/8 x 5 1/2 | 5/8 | 3/16 | 7/32 | 10 to 12 | 1. | 3-K-0 |
| †3-K-1 | 1/2 x 1 1/8 x 6 5/8 | 3/4 | 1/4 | 1/4 | 14 to 16 | 1.8 | †3-K-1 |
| †3-K-2 | 5/8 x 1 3/8 x 6 5/8 | 3/4 | 1/4 | 1/4 | 16 to 18 | 2.2 | †3-K-2 |

† Formerly numbered 11-K and 12-K respectively.

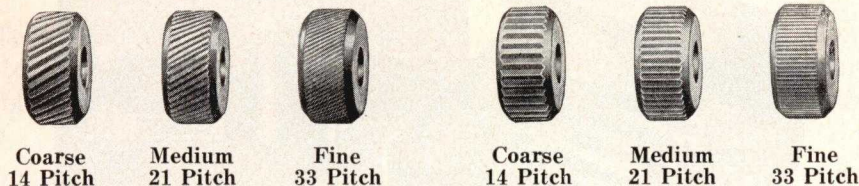
1-52

KNURLS FOR WILLIAMS' KNURLING-TOOL HOLDERS

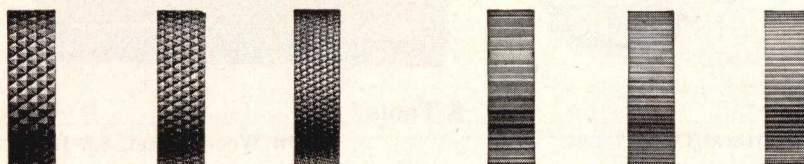
"THE HOLDERS THAT HOLD"

DIAMOND PATTERN

STRAIGHT-LINE PATTERN



Note: "Pitch" means number of teeth per linear inch.



Illustrations above show actual size of Knurling

Williams' Knurls are made to close limits in all respects and, being accurately cut, they assure sharp and perfect teeth in the knurled product. The hole is concentric with and parallel to the cutting face, insuring uniform, clean cut results. All Knurls are made from high grade tool steel and are specially hardened and tempered.

Furnished in pairs to fit standard makes of Knurling Tools and supplied in two Patterns—"Diamond" and "Straight-Line." Three different pitches in each Pattern—Coarse, 14 pitch; Medium, 21 pitch; Fine, 33 pitch; all as illustrated above. When ordering, always specify Pattern and pitch desired by catalog number.

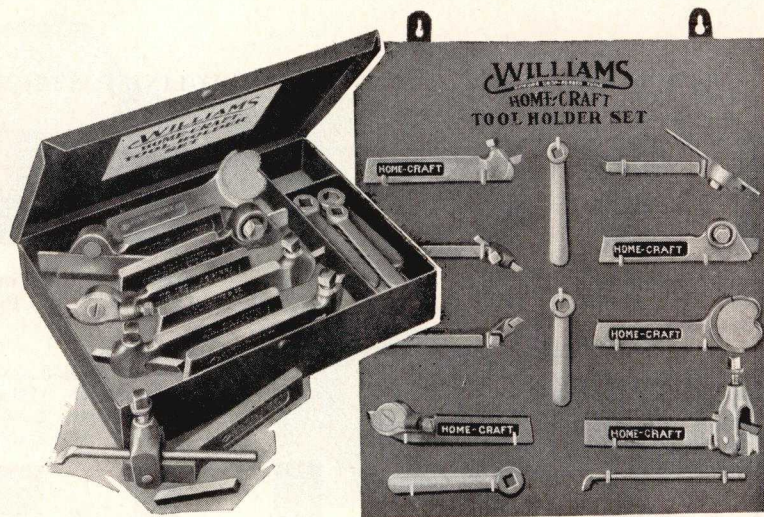
| Knurl No. | For Knurling Tool No. | Pitch | Knurls, Size | | | | Weight Per Pair, Lbs. |
|-----------------------|------------------------|--------|--------------|-----------|------|------|-----------------------|
| | | | Diameter | Thickness | Face | Hole | |
| DIAMOND PATTERN | | | | | | | |
| 8227 | 00-K, 0-K, 3-K-0 | Fine | 5/8 | 5/16 | 3/16 | 7/32 | .05 |
| 8224 | 00-K, 0-K, 3-K-0 | Medium | 5/8 | 5/16 | 3/16 | 7/32 | .05 |
| 8221 | 00-K, 0-K, 3-K-0 | Coarse | 5/8 | 5/16 | 3/16 | 7/32 | .05 |
| 8228 | 1-K, 2-K, 3-K-1, 3-K-2 | Fine | 3/4 | 3/8 | 1/4 | 1/4 | .08 |
| 8225 | 1-K, 2-K, 3-K-3, 3-K-2 | Medium | 3/4 | 3/8 | 1/4 | 1/4 | .08 |
| 8222 | 1-K, 2-K, 3-K-1, 3-K-2 | Coarse | 3/4 | 3/8 | 1/4 | 1/4 | .08 |
| STRAIGHT-LINE PATTERN | | | | | | | |
| 8267 | 00-K, 0-K, 3-K-0 | Fine | 5/8 | 5/16 | 3/16 | 7/32 | .05 |
| 8264 | 00-K, 0-K, 3-K-0 | Medium | 5/8 | 5/16 | 3/16 | 7/32 | .05 |
| 8261 | 00-K, 0-K, 3-K-0 | Coarse | 5/8 | 5/16 | 3/16 | 7/32 | .05 |
| 8268 | 1-K, 2-K, 3-K-1, 3-K-2 | Fine | 3/4 | 3/8 | 1/4 | 1/4 | .08 |
| 8265 | 1-K, 2-K, 3-K-1, 3-K-2 | Medium | 3/4 | 3/8 | 1/4 | 1/4 | .08 |
| 8262 | 1-K, 2-K, 3-K-1, 3-K-2 | Coarse | 3/4 | 3/8 | 1/4 | 1/4 | .08 |

WILLIAMS' "HOME-CRAFT" TOOL HOLDER SET

"THE HOLDERS THAT HOLD"

High Speed Steel Cutters

Convenient — Efficient — Economical



8 Tools

In Metal Case, 7 Lbs.

On Wood Panel, 8.6 Lbs.

Williams' "Home-Craft" Set consists of 8 Tool Holders with 3 Wrenches for all lathe operations—Turning, Cutting-Off, Boring, Threading, Knurling—and supplies a convenient, efficient and economical equipment for those using small lathes with 7 to 10" swing.

The Holders, or Shanks, all drop-forged from a strong, tough grade of carefully selected steel, are specially heat-treated and hardened. The nose of the Holders is chamfered to permit convenient use in cramped quarters.

All Cutters are made of High Speed Steel and are carefully hardened.

Cutting-Off Blades (or Cutters) are ground ready for use.

The Threading-Tool Holder is supplied with a Formed Cutter, the point of which is ground to an included angle of 60°. In re-sharpening it is necessary to grind the top edge only; consequently the Cutter will always retain its proper form and angle.

The Boring-Tool is furnished with Bar 1/4" round by 5" long, with point offset and ground; a 1/4" square turning cutter is also included.

The Knurling-Tool is fitted with "Diamond" pattern Knurls for medium work (21 pitch). Knurls for fine (33 pitch) or coarse (14 pitch) work are available if desired. "Straight Line" Knurls can also be furnished.

The Set, when mounted on orange-colored panel, may be hung close to the lathe, thus keeping all tools in plain view. Set is also supplied in strong, steel case. See illustrations.

When ordering, please state whether Panel or Case is wanted.

DETAILS OF TOOLS IN SET

| New No. | Old No. | Tool Holder | Size Shank | Cutter; High Speed Steel | Weight Each, Lbs. |
|---------|----------|--------------------------------------|-------------|------------------------------|-------------------|
| 2010-S | 0-S H | Turning—Straight Shank..... | 3/8 x 13/16 | 1/4 Square | .63 |
| 2010-R | 0-R H | " —R. H. Offset Shank..... | 3/8 x 13/16 | 1/4 Square | .64 |
| 2010-L | 0-L H | " —L. H. Offset Shank..... | 3/8 x 13/16 | 1/4 Square | .64 |
| 2040 | 0-K H | Knurling—..... | 3/8 x 3/4 | *Medium | .59 |
| 2020-S | N-20-R H | Cut-Off—R. H. Straight Shank..... | 3/8 x 13/16 | *3/32 x 5/8 | .63 |
| 2020-R | N-30-R H | " " —R. H. Offset Shank..... | 3/8 x 13/16 | *3/32 x 5/8 | .69 |
| 2050 | C-50H | Threading—with Formed Cutter..... | 3/8 x 3/4 | *Formed | .66 |
| 2030 | 15 H | Boring—Reversible—R. or L. Hand..... | 3/8 x 3/4 | { 1/4 Square *1/4 rd. x 5 | .88 |

* All finished, ready for use.

1-52

WILLIAMS' "HOME-CRAFT" CARBIDE TURNING-TOOL HOLDERS

"THE HOLDERS THAT HOLD"



Straight
Shank



Right Hand
Offset Shank



Left Hand
Offset Shank

In these Tools, the Cutter is held parallel to the shank. Consequently, Cutters can be so ground as to provide maximum support for the cutting edge. This feature, plus the extremely rigid Holder, is the recognized basis for the best performance of cemented Carbide Cutters.

Holders are broached for square Carbide Cutters but are supplied WITHOUT CUTTERS.

Williams' Carbide Tipped Cutters, for use with the above holders, are available in two grades and four standard shapes of tips. See page 165 for full description.

| Number | | | Holder, Size | For Cutter, Square Size | For Lathes of Approx. Swing, Inches | Weight Each, Lbs. |
|-------------------|---------------|--------------|-----------------|----------------------------|--|-------------------------|
| Straight Shank | Offset Shank | | | | | |
| | Right Hand | Left Hand | | | | |
| TOS-H | TOR-H | TOL-H | 3/8 x 13/16 x 6 | 1/4 | 7 to 10 | .67 |

WILLIAMS' "HOME-CRAFT"

High Speed Steel

FINISHED CUTTERS

1/4" Square



1
Left
Hand
Turning
Tool



2
Round
Nose
Turning
Tool



3
Right
Hand
Turning
Tool



5
Thread-
ing
Tool



6
Right
Hand
Corner
Tool



10
Brass
Tool

SET OF 6 CUTTERS

In Cardboard Box

Weight .25 Lb.

These ready-to-use "Home-Craft" Cutters are made of High Speed Steel. All are carefully ground to shape and hardened in electric furnaces, with atmosphere, temperature and time under absolute control. Long service is assured.

This Set of 6 Cutters of the forms illustrated cares for practically all lathe needs of school and home workers.

WILLIAMS' "HOME-CRAFT"

Drop-Forged

L A T H E D O G S



Williams' "Home-Craft" Dogs are drop-forged—not cast—and, consequently, are light but unusually strong and durable. Made especially for home-craft work; screws are hardened for lasting service.

| Number | *Capacity | Wgt. Ea., Lbs. | Number |
|--------|-----------|----------------|--------|
| 72-H | 1/2 | .28 | 72-H |
| 73-H | 3/4 | .50 | 73-H |
| 74-H | 1 | .91 | 74-H |
| 76-H | 1-1/2 | 1.1 | 76-H |

*Opening in each Dog is 1/16" over listed "Capacity" to accommodate easily rough, or irregular pieces.

WILLIAMS' LATHE TOOL ACCESSORY CABINET



No. THC-1

Total Weight, 81-1/4 Lbs.

The assortment of lathe tool accessories contained in this cabinet includes the most-called-for parts in all popular sizes. In addition to providing a convenient method of stocking these parts, this cabinet also acts as an effective display from which many additional sales are made.

The contents of each drawer are identified outside and inside. A label on each compartment gives the name and size of the accessory contained therein.

Cabinet is made of heavy gauge welded steel. Easy sliding drawers have a stop feature which allows the greater part of the drawer to be exposed. Overall cabinet, not including sign measures 18-1/4" high, 14-5/8" wide and 15-5/8" deep.

CONTENTS

HIGH SPEED CUTTERS

| | |
|----|--------------|
| 6 | 3/16" Square |
| 12 | 1/4" Square |
| 12 | 5/16" Square |
| 6 | 3/8" Square |
| 3 | 7/16" Square |

CUTTING OFF BLADES

| | |
|---|-------------|
| 6 | 3/32 x 5/8" |
| 6 | 1/8 x 3/4" |
| 6 | 1/8 x 7/8" |
| 3 | 3/16 x 1" |

**FORMED CUTTERS
FOR THREADING TOOLS**

| | |
|---|------|
| 2 | C-50 |
| 2 | C-51 |
| 2 | C-52 |
| 1 | C-53 |

SLEEVE BARS

| | |
|---|--------|
| 1 | 1/2" |
| 1 | 5/8" |
| 1 | 3/4" |
| 1 | 15/16" |

PLAIN BARS

| | |
|---|--------|
| 1 | 1/2" |
| 1 | 5/8" |
| 1 | 3/4" |
| 1 | 15/16" |

LIGHT BORING BARS

| | |
|---|---------------|
| 3 | 1/8 x 4" |
| 6 | 3/16 x 4-1/2" |
| 6 | 1/4 x 5" |
| 6 | 5/16 x 6" |
| 6 | 3/8 x 7" |
| 4 | 7/16 x 8" |

KNURLS

| | | |
|-------|----------|----------------------|
| 2 pr. | No. 8227 | 5/8" Fine Diamond |
| 2 pr. | No. 8224 | 5/8" Medium Diamond |
| 2 pr. | No. 8221 | 5/8" Coarse Diamond |
| 2 pr. | No. 8267 | 5/8" Fine Straight |
| 2 pr. | No. 8264 | 5/8" Medium Straight |
| 2 pr. | No. 8261 | 5/8" Coarse Straight |
| 2 pr. | No. 8228 | 3/4" Fine Diamond |
| 2 pr. | No. 8225 | 3/4" Medium Diamond |
| 2 pr. | No. 8222 | 3/4" Coarse Diamond |
| 2 pr. | No. 8268 | 3/4" Fine Straight |
| 2 pr. | No. 8265 | 3/4" Medium Straight |
| 2 pr. | No. 8262 | 3/4" Coarse Straight |

SET SCREW FOR TOOL HOLDERS

| | |
|---|-----|
| 2 | 00S |
| 4 | 0S |
| 4 | 1S |
| 4 | 2S |
| 2 | 3S |

WILLIAMS' HIGH SPEED STEEL CUTTERS

FOR WILLIAMS' TOOL HOLDERS

Require minimum of grinding only for use in Holders. All Cutters are hardened.

| For Turning Tool Holders | | | | For Williams' Boring Bars | | | | |
|--------------------------|--------------|--------|-------------------|---------------------------|---------------------|--------------|--------|-------------------|
| No. | CUTTER, SIZE | | Weight Each, Lbs. | Bar Diam. | For Use at Angle of | CUTTER, SIZE | | Weight Each, Lbs. |
| | Square | Length | | | | Square | Length | |
| 000 | 3/16 | 1 3/4 | .02 | 1/2 | 90° | 3/16 | 1 | .02 |
| 00 & 100 | 3/16 | 1 7/8 | .02 | | 45° | 3/16 | 1 1/2 | .02 |
| 0 & 101 | †1/4 | 2 3/8 | .04 | 5/8 | 90° | * 3/16 | 1 | .02 |
| 1 & 201 | †5/16 | 2 7/8 | .08 | | 45° | 3/16 | 1 1/2 | .02 |
| 2 & 102 | †3/8 | 3 3/8 | .13 | 3/4 | 90° | * 1/4 | 1 1/4 | .03 |
| 3 | 7/16 | 3 3/4 | .19 | | 45° | 1/4 | 2 | .04 |
| 4 & 103 | 1/2 | 4 1/8 | .27 | 15/16 | 90° | * 5/16 | 1 1/2 | .04 |
| 5 | 5/8 | 4 3/4 | .48 | | 45° | 5/16 | 2 1/2 | .06 |
| 6 | 3/4 | 5 1/2 | .81 | 1 1/8 | 90° | * 3/8 | 1 7/8 | .07 |
| | | | | | 45° | 3/8 | 3 | .10 |
| | | | | 1 5/16 | 90° | 3/8 | 2 1/8 | .08 |
| | | | | | 45° | 3/8 | 3 1/4 | .13 |
| | | | | 1 1/2 | 90° | 7/16 | 2 1/4 | .13 |
| | | | | | 45° | 7/16 | 3 3/8 | .17 |
| | | | | 1 13/16 | 90° | 1/2 | 2 5/8 | .19 |
| | | | | | 45° | 1/2 | 4 | .26 |
| | | | | 2 1/4 | 90° | 5/8 | 3 1/8 | .35 |
| | | | | | 45° | 5/8 | 4 3/4 | .48 |

† Cutters of these sizes are also suitable for turning when used in Threading-Tool, Nos. S-50 to S-52.

* Cutters of these sizes are also suitable for use with Nos. 46, 47 and 48 Extension Shaper Tools.

| For Threading-Tool Holders | | | | For Planing-Tool Holders | | | |
|----------------------------|--------------|--------|-------------------|--------------------------|--------------|--------|-------------------|
| No. | CUTTER, SIZE | | Weight Each, Lbs. | No. | CUTTER, SIZE | | Weight Each, Lbs. |
| | Square | Length | | | Flat | Length | |
| S-50 | 1/4 | 2 3/8 | .04 | 40 | 1/4 x 3/8 | 2 1/2 | .06 |
| S-51 | 5/16 | 2 7/8 | .08 | 401 | 5/16 x 7/16 | 3 | .13 |
| S-52 | 3/8 | 3 3/8 | .13 | 41 | 3/8 x 1/2 | 3 1/2 | .19 |
| | | | | 42 | 1/2 x 3/4 | 4 1/4 | .45 |
| | | | | 43 | 5/8 x 7/8 | 5 | .77 |
| | | | | 44 | 3/4 x 1 | 6 | 1.3 |
| | | | | 45 | 7/8 x 1-1/8 | 7 | 2.1 |

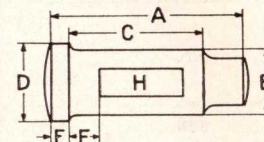
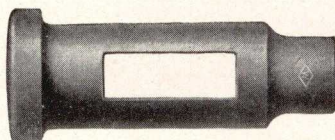
Turning-Tool Cutters marked † are suitable for turning work in Threading-Tool Holders. See table above.

| Bevel For Cutting-Off Tool Holders | | | Heavy Bevel For Side-Tool Holders | | |
|------------------------------------|--------------|-------------------|-----------------------------------|-------------|-------------------|
| Number | Size | Weight Each, Lbs. | Number | Size | Weight Each, Lbs. |
| 19 - 29 | 3/32 x 1/2 | .06 | 19 - 29 | 1/8 x 1/2 | .06 |
| 20 - 30 | 3/32 x 5/8 | .07 | 20 - 30 | 5/32 x 5/8 | .10 |
| 21 - 31 | 1/8 x 3/4 | .14 | 21 - 31 | 3/16 x 3/4 | .19 |
| 22 - 32 | 1/8 x 7/8 | .19 | 22 - 32 | 1/4 x 7/8 | .36 |
| 23 - 33 | 3/16 x 1 | .35 | 23 - 33 | 5/16 x 1 | .56 |
| 24 - 34 | 3/16 x 1-1/8 | .46 | 24 - 34 | 3/8 x 1-1/8 | .92 |
| 25 - 35 | 1/4 x 1-1/8 | .69 | | | |

**WILLIAMS' "VULCAN"
TOOL POST FITTINGS**

UNFINISHED

TOOL POSTS
Openings
Punched Out



| Number | 5 | 10 | 20 | 23 | 28 | 30 | 40 | 50 | 60 |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Length, A..... | 2 15/16 | 4 1/16 | 4 9/16 | 5 | 5 3/16 | 5 1/4 | 6 5/16 | 7 3/8 | 8 3/4 |
| Body | | | | | | | | | |
| Diameter, B..... | 1 1/32 | 1 1/4 | 1 5/8 | 1 7/16 | 1 9/16 | 1 13/16 | 2 1/16 | 2 1/4 | 2 31/32 |
| Length, C..... | 2 | 2 7/8 | 3 1/4 | 3 1/2 | 3 11/16 | 3 3/4 | 4 3/8 | 5 | 6 |
| Base | | | | | | | | | |
| Diameter, D..... | 1 7/32 | 1 5/8 | 2 1/8 | 1 7/8 | 2 1/16 | 2 5/16 | 2 5/8 | 2 15/16 | 3 5/8 |
| Thickness, E..... | 5/16 | 1/4 | 7/16 | 5/16 | 5/16 | 1/2 | 9/16 | 5/8 | 3/4 |
| Base to | | | | | | | | | |
| Opening, F..... | 7/16 | 1/2 | 13/16 | 5/8 | 5/8 | 15/16 | 1 3/16 | 1 3/8 | 1 1/2 |
| Opening | 1 5/16 | 1 15/16 | 1 7/8 | 2 1/2 | 2 11/16 | 2 1/8 | 2 1/2 | 2 7/8 | 3 9/16 |
| Size, H..... | x 7/16 | x 19/32 | x 11/16 | x 21/32 | x 11/16 | x 3/4 | x 7/8 | x 15/16 | x 1 |
| For use with | | | | | | | | | |
| Wedge..... | 5 | 10 | 15 & 18 | 15 | 15 & 18 | 18 & 20 | 30 & 40 | 60 | |
| For use with | | | | | | | | | |
| Ring..... | 5 | 10 | 11 | 14 | 18 | 20 | 30 & 40 | 60 | |
| Weight Each, Lbs... | .5 | 1.1 | 2.2 | 1.6 | 2.2 | 3.1 | 4.7 | 6.6 | 14.2 |

**TOOL POST
WEDGES**



For Changing
Angles of
Lathe Tools

| Number | 5 | 10 | 11 | 15 | 18 | 20 | 30 | 40 | 60 | 65 |
|----------------------|---------|-------|-------|-------|---------|-------|-------|-------|--------|--------|
| Length..... | 2 13/32 | 3 | 3 3/8 | 3 3/8 | 3 7/8 | 3 7/8 | 4 3/8 | 4 7/8 | 5 1/4 | 5 5/16 |
| Width—Top..... | 13/32 | 9/16 | 1/2 | 5/8 | 11/16 | 11/16 | 3/4 | 13/16 | 15/16 | 7/8 |
| Width—Extreme... | 1/2 | 21/32 | 19/32 | 23/32 | 3/4 | 13/16 | 7/8 | 15/16 | 1 3/32 | 1 1/32 |
| Extreme Thickness... | 11/32 | 31/64 | 25/64 | 7/16 | 15/32 | 17/32 | 1/2 | 21/32 | 3/4 | 29/32 |
| Radius..... | 3 | 2 7/8 | 4 5/8 | 4 5/8 | 4 1/2 | 4 3/4 | 5 1/2 | 5 3/4 | 6 | 5 |
| For Use with Post... | 5 | 10 | 20 | 20 | 30 | 30 | 40 | 40 | 50 | |
| For Use with Ring... | 5 | 10 | 11 | 11 | 11 & 20 | 20 | 30 | 40 | 60 | |
| Weight Each, Lbs... | .08 | .19 | .13 | .19 | .25 | .30 | .36 | .56 | .78 | .91 |

**TOOL POST
RINGS**



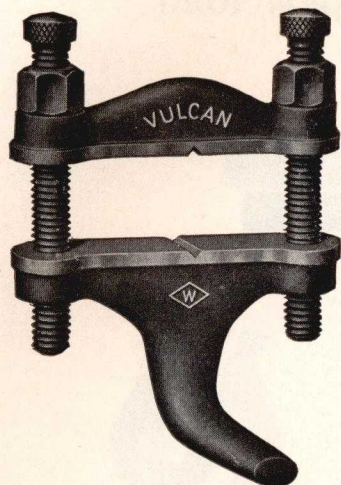
For Changing
Angles of
Lathe Tools

| Number | 5 | 10 | 11 | 14 | 18 | 20 | 30 | 40 | 60 |
|-----------------------|--------|---------|---------|---------|--------|---------|-------|-------|--------|
| Diameter, Outside... | 2 1/4 | 2 15/16 | 3 | 3 3/16 | 3 7/16 | 3 1/2 | 3 1/2 | 4 | 4 1/2 |
| Diameter, Hole... | 1 1/16 | 1 5/16 | 1 5/8 | 1 7/16 | 1 9/16 | 1 3/4 | 2 | 2 | 2 3/16 |
| Thickness, Edge... | 3/8 | 7/16 | 7/16 | 5/8 | 11/16 | 9/16 | 3/4 | 3/4 | 3/4 |
| Radius of Concave... | 3 | 2 7/8 | 4 5/8 | 4 5/8 | 4 1/2 | 4 3/4 | 5 1/2 | 5 3/4 | 6 |
| For Use with Post... | 5 | 10 | 20 | 23 | 28 | 30 | 40 | 40 | 50 |
| For Use with Wedge... | 5 | 10 | 11 & 15 | 18 & 20 | 18 | 18 & 20 | 30 | 40 | 60 |
| Weight Each, Lbs... | .30 | .65 | .56 | .94 | 1.3 | .94 | 1.3 | 1.9 | 2.3 |

♦ REGISTERED TRADE MARK

1-B2

WILLIAMS' ♦"VULCAN"
DROP-FORGED CLAMP LATHE DOGS



These are drop-forged from a strong, tough grade of carefully selected steel and are heat-treated after forging to increase further their strength and reduce the liability of springing.

The Screws, threaded U. S. Standard, are made of a special grade of steel, and are hardened and tempered. The Nuts are case-hardened. Extra Screws and Nuts carried in Stock.

The Nuts furnish ready means of arrangement for the minimum projection of Screws beyond the body of Dog and thus lessen the danger to the operator when tool is in use.

| Number | Capacity | | Screws | | Weight Each, Lbs. Dog Complete | Number |
|--------|-----------------|-------------------------|----------|-------------------|--------------------------------|--------|
| | Maximum Opening | Distance Between Screws | Diameter | Length Under Head | | |
| 61 | 1 5/8 | 1 3/4 | 5/16 | 2 3/4 | .53 | 61 |
| 62 | 1 7/8 | 2 1/4 | 3/8 | 3 5/16 | .98 | 62 |
| 63 | 2 1/2 | 2 3/4 | 7/16 | 4 1/4 | 1.8 | 63 |
| 64 | 3 1/4 | 3 1/2 | 1/2 | 5 3/8 | 3. | 64 |

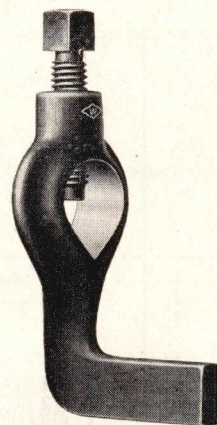
WILLIAMS' ♦"VULCAN"
DROP-FORGED MILLING MACHINE DOGS

With Flat, Bent Tail

These are designed for taper work carried between centers on milling machines, the flat tail works in the head-slot without the back-lash unavoidable in Dogs with taper tail. They serve also as a heavy pattern Lathe Dog.

The heads are made of sufficient size to permit re-tapping for one or two larger sizes of screws as the threads wear.

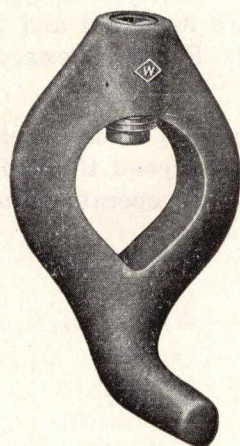
The Screws, threaded U. S. Standard, are made of a special grade of steel and are hardened and tempered.



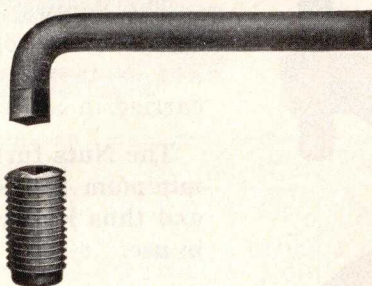
| Number | Capacity | Screw | | Weight Each, Lbs. Dog Complete | Number |
|--------|----------|----------|-------------------|--------------------------------|--------|
| | | Diameter | Length Under Head | | |
| 42 | 1/2 | 3/8 | 1 1/4 | .75 | 42 |
| 43 | 3/4 | 7/16 | 1 5/8 | .93 | 43 |
| 44 | 1 | 1/2 | 2 | 1.2 | 44 |
| 45 | 1 1/4 | 1/2 | 2 1/4 | 1.3 | 45 |
| 46 | 1 1/2 | 9/16 | 2 3/8 | 1.6 | 46 |
| 47 | 1 3/4 | 5/8 | 2 1/2 | 1.8 | 47 |
| 48 | 2 | 5/8 | 2 7/8 | 2.1 | 48 |

WILLIAMS' ♦"VULCAN"
DROP-FORGED LATHE DOGS

WITH BENT TAIL AND ONE SCREW



Safety Dog
and Screw



Safety Screw
and Wrench



Non-Safety Dog
with
Square Ild. Screw

Furnished with
Interchangeable Screws,
either Safety or Non-Safety

Full description on opposite page.

Dogs with Safety Screws will be supplied, unless otherwise specified.

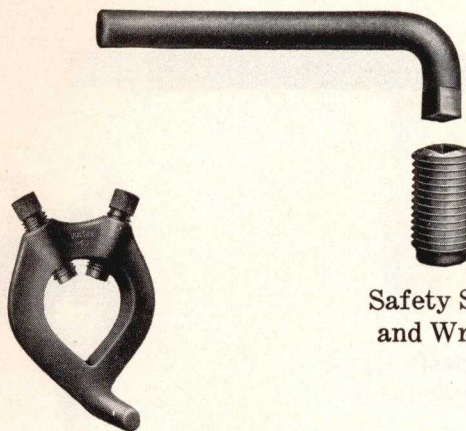
| No. | Capacity | SCREWS | | | | Weight Each, Lbs. with Dog Either Screw | No. |
|-----|----------|-------------|-------------------------|--------|-------------------|--|-----|
| | | Square Head | | Safety | | | |
| | | Size | | Size | | | |
| | | Diam. | Length Under Head | Diam. | Extreme Length | | |
| 1 | 3/8 | 7/16 | 1 | 7/16 | 5/8 | .32 | 1 |
| 2 | 1/2 | 9/16 | 1 1/4 | 9/16 | 13/16 | .56 | 2 |
| 3 | 3/4 | 5/8 | 1 5/8 | 5/8 | 1 1/16 | 1. | 3 |
| 4 | 1 | 5/8 | 2 | 5/8 | 1 1/4 | 1.5 | 4 |
| 5 | 1 1/4 | 3/4 | 2 1/4 | 3/4 | 1 3/8 | 1.9 | 5 |
| 6 | 1 1/2 | 7/8 | 2 7/16 | 7/8 | 1 11/16 | 2.6 | 6 |
| 7 | 1 3/4 | 7/8 | 2 7/16 | 7/8 | 1 11/16 | 3.3 | 7 |
| 8 | 2 | 1 | 2 3/4 | 1 | 1 7/8 | 4.1 | 8 |
| 9 | 2 1/2 | 1 1/8 | 3 | 1 1/8 | 2 | 5.4 | 9 |
| 10 | 3 | 1 1/4 | 3 1/4 | 1 1/4 | 2 1/8 | 7. | 10 |
| 11 | 3 1/2 | 1 3/8 | 3 1/2 | 1 3/8 | 2 1/2 | 10. | 11 |
| 12 | 4 | 1 1/2 | 3 3/4 | 1 1/2 | 2 5/8 | 12. | 12 |
| 13 | 5 | 1 5/8 | 4 1/2 | 1 5/8 | 3 3/8 | 20. | 13 |

Unless otherwise specified, a Wrench will be supplied with Safety Dogs at extra price.

♦REGISTERED TRADE MARK

1-2

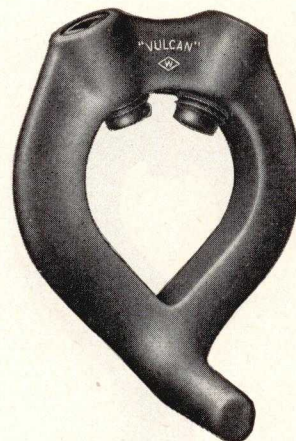
WILLIAMS' ♦"VULCAN"
 DROP-FORGED HEAVY SERVICE LATHE DOGS
 WITH BENT TAIL AND TWO SCREWS



Non-Safety Dog
 with
 Square Hd. Screws

Safety Screw
 and Wrench

Furnished with
 Interchangeable Screws,
 either Safety or Non-Safety



Safety Dog
 and Screws

Safety-for-the-operator and better balance when on the lathe are material improvements which have been attained in this design.

The Screws are of special steel, hardened and tempered, and are threaded U. S. Standard, except that those above 1 inch diameter have eight threads per inch. They are supplied in two types, Safety and Non-Safety, which are interchangeable in corresponding Dogs.

When ordering extra Screws, please state whether Safety or Non-Safety type is wanted: if latter, specify also diameter of screw.

Dogs with Safety Screws will be supplied, unless otherwise specified.

| No. | Capacity | SCREWS | | | | Weight Each, Lbs. Dog with Either Screw | No. |
|-----|----------|---------------------|-------------------------|----------------|-------------------|--|-----|
| | | Square Head Size | | Safety Size | | | |
| | | Diam. | Length Under Head | Diam. | Extreme Length | | |
| 112 | 4 | 1 1/2 | 3 3/4 | 1 1/2 | 2 5/8 | 15. | 112 |
| 113 | 5 | 1 5/8 | 4 1/2 | 1 5/8 | 3 3/8 | 21.5 | 113 |
| 114 | 6 | 1 5/8 | 4 1/2 | 1 5/8 | 3 3/8 | 30.7 | 114 |

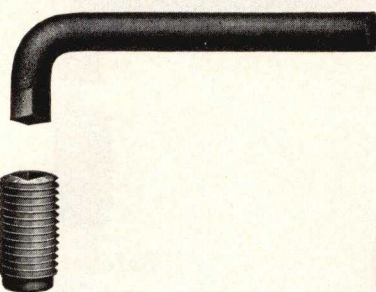
Unless otherwise specified, a Wrench will be supplied with Safety Dogs at extra price.

♦ REGISTERED TRADE MARK

WILLIAMS' ♦"VULCAN"
DROP-FORGED LATHE DOGS
WITH STRAIGHT TAIL AND ONE SCREW



Safety Dog
and Screw



Safety Screw
and Wrench



Non-Safety Dog
with
Square Hd. Screws

Furnished with
Interchangeable Screws
either Safety or Non-Safety

Full description on opposite page.

Dogs with Safety Screws will be supplied, unless otherwise specified.

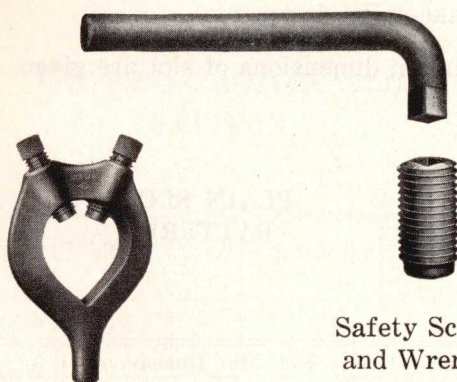
| No. | Capacity | SCREWS | | | | Weight Each, Lbs. Dog with Either Screw | No. |
|-----|----------|-------------|-------------------------|--------|-------------------|---|-----|
| | | Square Head | | Safety | | | |
| | | Size | | Size | | | |
| | | Diam. | Length Under Head | Diam. | Extreme Length | | |
| 21 | 3/8 | 7/16 | 1 | 7/16 | 5/8 | .19 | 21 |
| 22 | 1/2 | 9/16 | 1 1/4 | 9/16 | 13/16 | .34 | 22 |
| 23 | 3/4 | 5/8 | 1 5/8 | 5/8 | 1 1/16 | .66 | 23 |
| 24 | 1 | 5/8 | 2 | 5/8 | 1 1/4 | 1.1 | 24 |
| 25 | 1 1/4 | 3/4 | 2 1/4 | 3/4 | 1 3/8 | 1.5 | 25 |
| 26 | 1 1/2 | 7/8 | 2 7/16 | 7/8 | 1 11/16 | 2. | 26 |
| 27 | 1 3/4 | 7/8 | 2 7/16 | 7/8 | 1 11/16 | 2.7 | 27 |
| 28 | 2 | 1 | 2 3/4 | 1 | 1 7/8 | 3.5 | 28 |
| 29 | 2 1/2 | 1 1/8 | 3 | 1 1/8 | 2 | 4.6 | 29 |
| 30 | 3 | 1 1/4 | 3 1/4 | 1 1/4 | 2 1/8 | 6. | 30 |
| 31 | 3 1/2 | 1 3/8 | 3 1/2 | 1 3/8 | 2 1/2 | 9. | 31 |
| 32 | 4 | 1 1/2 | 3 3/4 | 1 1/2 | 2 5/8 | 11. | 32 |
| 33 | 5 | 1 5/8 | 4 1/2 | 1 5/8 | 3 3/8 | 19.5 | 33 |

Unless otherwise specified, a Wrench will be supplied with Safety Dogs at extra price.

♦ REGISTERED TRADE MARK

1-B2

WILLIAMS' ♦ "VULCAN"
 DROP-FORGED HEAVY SERVICE LATHE DOGS
 WITH STRAIGHT TAIL AND TWO SCREWS



Non-Safety Dog
 with
 Square Hd. Screw

Safety Screw
 and Wrench

Furnished with
 Interchangeable Screws,
 either Safety or Non-Safety



Safety Dog and Screws

Safety-for-the-operator and better balance when on the lathe are material improvements which have been attained in this design.

The Screws are of special steel, hardened and tempered, and are threaded U. S. Standard, except that those above 1 inch diameter have eight threads per inch. They are supplied in two types, Safety and Non-Safety, which are interchangeable in corresponding Dogs.

When ordering extra Screws, please state whether Safety or Non-Safety type is wanted; if latter, specify also diameter of screw.

Dogs with Safety Screws will be supplied, unless otherwise specified.

| No. | Capacity | SCREWS | | | | Weight Each, Lbs. Dog with Either Screw | No. |
|-----|----------|---------------------|-------------------------|----------------|-------------------|--|-----|
| | | Square Head Size | | Safety Size | | | |
| | | Diam. | Length Under Head | Diam | Extreme Length | | |
| 132 | 4 | 1 1/2 | 3 3/4 | 1 1/2 | 2 5/8 | 13. | 132 |
| 133 | 5 | 1 5/8 | 4 1/2 | 1 5/8 | 3 3/8 | 20.5 | 133 |
| 134 | 6 | 1 5/8 | 4 1/2 | 1 5/8 | 3 3/8 | 28. | 134 |

Unless otherwise specified, a Wrench will be supplied with Safety Dogs at extra price.

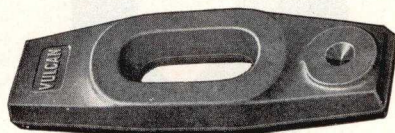
♦ REGISTERED TRADE MARK

WILLIAMS' ♦"VULCAN"
DROP-FORGED STRAP CLAMPS

These forgings are made from a strong, tough grade of carefully selected steel and are heat-treated after forging to increase their strength and stiffness.

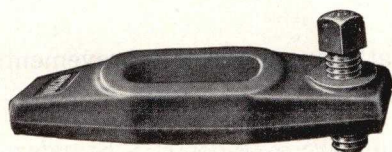
On Planer, Lathe, Drill Press, Milling and Boring Machine work they are time-saving and effective—far more efficient than any make-shift clamp.

Because of draft or taper on forgings, minimum dimensions of slot are given.



PLAIN SLOT
PATTERN

| No. | Length | Width | | Thickness | | Slot; Min. Dimensions | | Weight Ea., Lbs. | No. |
|-----|--------|--------|--------|-----------|--------|-----------------------|-------|---------------------|-----|
| | | Ends | Center | Ends | Center | Length | Width | | |
| 54 | 4 | 1 3/16 | 1 5/8 | 1/2 | 3/4 | 1 3/8 | 11/16 | 1. | 54 |
| 56 | 6 | 1 1/4 | 1 3/4 | 9/16 | 7/8 | 2 1/16 | 11/16 | 1.8 | 56 |
| 58 | 8 | 1 1/2 | 2 1/8 | 3/4 | 1 1/8 | 2 13/16 | 13/16 | 3.8 | 58 |
| 59 | 10 | 1 3/4 | 2 1/2 | 15/16 | 1 3/8 | 3 11/16 | 15/16 | 6.6 | 59 |



ADJUSTABLE STEP
PATTERN

| No. | Length | Width | | Thickness | | Slot; Min. Dimensions | | Screws | | Wgt. Each, Lbs. | | No. |
|-----|--------|--------|--------|-----------|--------|-----------------------|-------|--------|------------------|-----------------|-----------------|-----|
| | | Ends | Center | Ends | Center | Length | Width | Diam. | Lgth. Under Head | Extra Screws | Complete Clamps | |
| 54A | 4 | 1 3/16 | 1 5/8 | 1/2 | 3/4 | 1 3/8 | 11/16 | 1/2 | 1 1/4 | .06 | 1.1 | 54A |
| 56A | 6 | 1 1/4 | 1 3/4 | 9/16 | 7/8 | 2 1/16 | 11/16 | 5/8 | 1 1/2 | .19 | 2. | 56A |
| 58A | 8 | 1 1/2 | 2 1/8 | 3/4 | 1 1/8 | 2 13/16 | 13/16 | 3/4 | 1 3/4 | .31 | 3.9 | 58A |
| 59A | 10 | 1 3/4 | 2 1/2 | 15/16 | 1 3/8 | 3 11/16 | 15/16 | 7/8 | 2 1/8 | .5 | 7.1 | 59A |



GOOSE NECK
PATTERN

| No. | Length | Width | | Thickness | | Slot; Min. Dimensions | | Neck Offset | Weight Ea., Lbs. | No. |
|-----|--------|--------|--------|-------------|--------|-----------------------|-------|----------------|---------------------|-----|
| | | Ends | Center | Ends | Center | Length | Width | | | |
| 74 | 4 | 1 3/16 | 1 5/8 | 3/8 & 1/2 | 3/4 | 15/16 | 11/16 | 13/16 | 1. | 74 |
| 76 | 6 | 1 1/4 | 1 3/4 | 7/16 & 9/16 | 7/8 | 1 11/16 | 11/16 | 15/16 | 2. | 76 |
| 78 | 8 | 1 1/2 | 2 1/8 | 9/16 & 3/4 | 1 1/8 | 2 7/16 | 13/16 | 1 1/8 | 4.2 | 78 |

**WILLIAMS' ♦ "VULCAN"
DROP-FORGED STRAP CLAMPS**

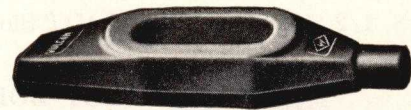
Williams' Universal Adjustable Strap Clamps are designed for holding work in planers, boring mills, drill presses, milling machines, etc. Ideal for irregular shapes and varying sizes. Position of the saddle may be changed to maintain vertical, right angle positioning of the tie-bolt.

**UNIVERSAL ADJUSTABLE
PATTERN**



| No. | Length | Width of Clamp | Adjustment | Max. "T" Slot Bolt, Size Inches | Weight Each, Lbs. | | | |
|-----|--------|----------------|------------|---------------------------------|-------------------|----------|-----|---------------|
| | | | | | No. | Complete | No. | Extra Saddles |
| 21 | 5 1/16 | 1 5/8 | 2 1/4 | 5/8 | 21 | 1.3 | 21S | .19 |
| 22 | 8 | 2 1/8 | 4 | 3/4 | 22 | 3.1 | 22S | .31 |
| 23 | 12 | 2 3/4 | 6 1/4 | 1 | 23 | 9.8 | 23S | .75 |

**FINGER PATTERN
SINGLE END**



| No. | Length | Width | | Thickness | | Slot; Min. Dimensions | | Finger Dimensions | Weight Ea., Lbs. | No. |
|-----|--------|----------|--------|-----------|--------|-----------------------|-------|-------------------|------------------|-----|
| | | Flat End | Center | Flat End | Center | Length | Width | | | |
| 44 | 4 | 1 3/16 | 1 5/8 | 7/16 | 3/4 | 1 3/8 | 11/16 | 1/2 x 1/2 | .83 | 44 |
| 46 | 6 | 1 1/4 | 1 3/4 | 1/2 | 7/8 | 1 15/16 | 11/16 | 5/8 x 5/8 | 1.6 | 46 |
| 48 | 8 | 1 1/2 | 2 1/8 | 5/8 | 1 1/8 | 2 9/16 | 13/16 | 3/4 x 3/4 | 3.3 | 48 |

**FINGER PATTERN
DOUBLE END**



| No. | Length | Width Center | Thickness Center | Min. Diameter Hole | Finger Dimensions | Weight Ea., Lbs. | No. |
|-----|--------|--------------|------------------|--------------------|-------------------|------------------|-----|
| 30 | 3 | 1 1/2 | 5/8 | 11/16 | 1/2 x 1/2 | .37 | 30 |
| 35 | 3 1/2 | 1 5/8 | 3/4 | 11/16 | 5/8 x 5/8 | .62 | 35 |
| 40 | 4 | 1 13/16 | 7/8 | 13/16 | 3/4 x 3/4 | .87 | 40 |

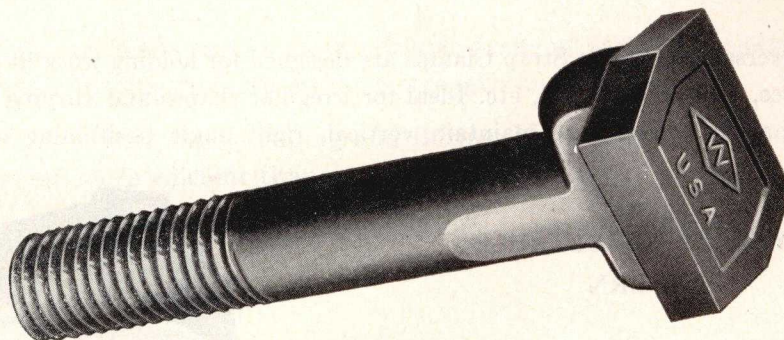
"U" PATTERN



| No. | Length | Maximum Width | Thickness | Slot; Min. Dimensions | | Finger Dimensions | Weight Ea., Lbs. | No. |
|-----|--------|---------------|-----------|-----------------------|--------|-------------------|------------------|-----|
| | | | | Length | Width | | | |
| 64 | 4 1/2 | 1 3/4 | 3/4 | 3 1/2 | 11/16 | 1/2 x 1/2 | 1. | 64 |
| 66 | 6 5/8 | 2 | 7/8 | 5 1/2 | 11/16 | 5/8 x 5/8 | 2. | 66 |
| 68 | 8 3/4 | 2 1/2 | 1 1/8 | 7 3/8 | 13/16 | 3/4 x 3/4 | 4. | 68 |
| 110 | 10 | 2 3/4 | 1 1/4 | 9 | 15/16 | 15/16 x 15/16 | 5.8 | 110 |
| 112 | 12 | 3 1/4 | 1 3/4 | 11 | 1 1/16 | 1 1/16 x 1 1/16 | 10.3 | 112 |

♦ REGISTERED TRADE MARK

WILLIAMS' SET-UP ACCESSORIES

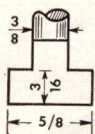
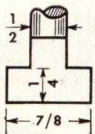
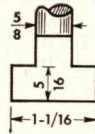
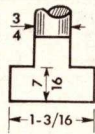
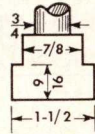
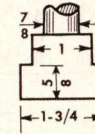


T-SLOT BOLTS

Williams' T-Slot Bolts are used for setting-up work on planers, shapers, milling machines and other similar applications. Forged from a superior grade of steel to withstand severe machine shop use. Accurately designed to fit T-Slots, threaded National Coarse (U.S.S.), ready for use. These T-Slot Bolts will not turn in machine table or break out machine table slots. Available in 3/8, 1/2, 5/8, 3/4, 7/8 and 1" T-Slot sizes with lengths as listed in table below.

T-SLOT BOLT DIMENSIONS AND WEIGHTS

Lengths Under Head in Inches — Weights Each, in Pounds

| 3/8" T-SLOT SIZE | | 1/2" T-SLOT SIZE | | 5/8" T-SLOT SIZE | | 3/4" T-SLOT SIZE | | 7/8" T-SLOT SIZE | | 1" T-SLOT SIZE | |
|---|--------|---|--------|---|--------|---|--------|--|--------|---|--------|
|  | |  | |  | |  | |  | |  | |
| Length | Weight | Length | Weight | Length | Weight | Length | Weight | Length | Weight | Length | Weight |
| 1 | .05 | | | | | | | | | | |
| 1 1/4 | .05 | 1 1/4 | .14 | | | | | | | | |
| 1 1/2 | .06 | 1 1/2 | .16 | 1 1/2 | .27 | | | | | | |
| 1 3/4 | .07 | 1 3/4 | .17 | | | | | | | | |
| 2 | .08 | 2 | .18 | 2 | .29 | 2 | .49 | | | | |
| 2 1/4 | .08 | 2 1/4 | .20 | 2 1/4 | .32 | | | | | | |
| 2 1/2 | .09 | 2 1/2 | .21 | 2 1/2 | .33 | 2 1/2 | .55 | 2 1/2 | | | |
| | | 2 3/4 | .22 | 2 3/4 | .36 | | | | | | |
| 3 | .11 | 3 | .24 | 3 | .37 | 3 | .6 | 3 | | 3 | |
| 3 1/2 | .12 | 3 1/2 | .26 | 3 1/2 | .42 | 3 1/2 | .67 | 3 1/2 | | | |
| 4 | .14 | 4 | .29 | 4 | .47 | 4 | .73 | 4 | | 4 | |
| 4 1/2 | .15 | 4 1/2 | .31 | 4 1/2 | .52 | 4 1/2 | .79 | 4 1/2 | | | |
| 5 | .16 | 5 | .35 | 5 | .56 | 5 | .84 | 5 | | 5 | |
| 5 1/2 | .18 | | | 5 1/2 | .6 | 5 1/2 | .91 | 5 1/2 | | | |
| 6 | .19 | 6 | .4 | 6 | .64 | 6 | .96 | 6 | | 6 | |
| 7 | .22 | 7 | .44 | 7 | .71 | 7 | 1.1 | 7 | | 7 | |
| 8 | .26 | 8 | .49 | 8 | .75 | 8 | 1.2 | 8 | | 8 | |
| 9 | .29 | 9 | .55 | 9 | .87 | 9 | 1.3 | 9 | | 9 | |
| 10 | .32 | 10 | .61 | 10 | .96 | 10 | 1.4 | 10 | | 10 | |
| | | 12 | .71 | 12 | 1.1 | 12 | 1.7 | 12 | | 12 | |
| | | | | 14 | 1.3 | 14 | 1.9 | 14 | | 14 | |
| | | | | 16 | 1.5 | 16 | 2.2 | 16 | | 16 | |
| | | | | 18 | 1.7 | 18 | 2.4 | 18 | | 18 | |
| | | | | 20 | 1.8 | 20 | 2.6 | 20 | | 20 | |
| | | | | | | 24 | 3.2 | 24 | | 24 | |
| | | | | | | 30 | 3.9 | 30 | | 30 | |

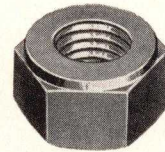
WILLIAMS' SET-UP ACCESSORIES

These Hexagon Nuts are specially designed for use with Williams' T-Slot Bolts. Threaded National Coarse (U.S.S.) and case hardened.

Available in sizes for 3/8, 1/2, 5/8, 3/4 and 7/8" bolt diameters.

| No. | Bolt Diameter, Inches | Threads Per Inch | Thickness, Inches | Across Flats, Inches | Weight Each, Lbs. |
|------|-----------------------|------------------|-------------------|----------------------|-------------------|
| 3 HN | 3/8 | 16 | 7/16 | 11/16 | .04 |
| 4 HN | 1/2 | 13 | 5/8 | 7/8 | .09 |
| 5 HN | 5/8 | 11 | 3/4 | 1-1/16 | .14 |
| 6 HN | 3/4 | 10 | 7/8 | 1-1/4 | .24 |
| 7 HN | 7/8 | 9 | 1 | 1-7/16 | .34 |

**HEXAGON NUTS
FOR T-SLOT BOLTS**

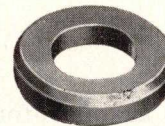


These Flat Washers are extra thick to resist bending and have a beveled edge on one side.




Available in sizes for 3/8, 1/2, 5/8, 3/4 and 7/8" bolt diameters.

| Bolt Diameter, Inches | Outside Diameter, Inches | Thickness, Inches | Weight Each, Lbs. |
|-----------------------|--------------------------|-------------------|-------------------|
| 3/8 | 7/8 | 1/8 | .02 |
| 1/2 | 1 | 3/16 | .03 |
| 5/8 | 1-1/4 | 1/4 | .06 |
| 3/4 | 1-1/2 | 1/4 | .06 |
| 7/8 | 1-3/4 | 1/4 | .15 |

**FLAT WASHERS
FOR T-SLOT BOLTS**



Williams' T-Slot Nuts are used for setting-up work on planers, shapers, milling machines, etc., where studs are to be used in place of T-Slot Bolts.

| No. | T-Slot Size | Stud Diam. | Threads Per Inch |  |  |  | Wgt. Each, Lbs. |
|-------|-------------|------------|------------------|---|---|---|-----------------|
| 5 TN | 5/8 | 1/2 | 13 | 1-1/8 | 13/32 | 1-1/4 | |
| 6 TN | 3/4 | 5/8 | 11 | 1-5/16 | 17/32 | 1-1/2 | |
| 7 TN | 7/8 | 3/4 | 10 | 1-1/2 | 9/16 | 1-3/4 | .42 |
| 8 TN | 1 | 7/8 | 9 | 1-3/4 | 5/8 | 2 | .63 |
| 10 TN | 1-1/4 | 1 | 8 | 2 | 7/8 | 2-3/8 | 1.13 |

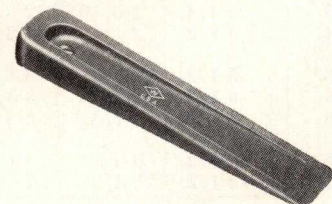
T-SLOT NUTS



Williams' Set-Up Wedges are used for setting-up work on planers, shapers, milling machines and other similar applications.

| No. | Length | Width | Thick End | Weight Each, Lbs. |
|------|--------|-------|-----------|-------------------|
| 3 WG | 3 | 1 | 1/4 | |
| 5 WG | 5 | 1 | 1/2 | |
| 6 WG | 6 | 1-1/4 | 3/4 | |

SET-UP WEDGES



**WILLIAMS' ♦ "VULCAN"
DROP-FORGED HEAVY SERVICE "C" CLAMPS**



These are drop-forged from a strong, tough grade of carefully selected steel. Specially heat-treated to increase further their strength and reduce the liability of springing, they are the strongest "C" Clamps on the market.

The Screws, threaded U. S. Standard, are made of a special grade of steel and are hardened and tempered.

With Long Screws the minimum capacity of all Clamps will be 0.

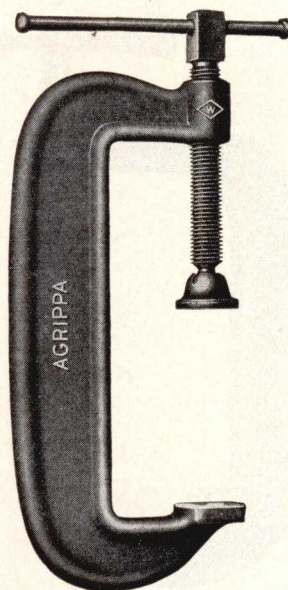
Clamps with Standard Screws will be furnished, unless otherwise specified.

| No. | Capacity | | Depth of Throat Center of Screw | Extreme Dimensions of Body | | Standard Screw | | Weight Each Lbs. | | | No. |
|-------|----------|----------------------|---------------------------------|----------------------------|-------|----------------|-------------------|------------------|------|------------------------------|-------|
| | Max. | Min. With Std. Screw | | Length | Width | Diam. | Length Under Head | Extra Screws | | Complete with Standard Screw | |
| | | | | | | | | Standard | Long | | |
| 0 | 3/4 | 0 | 3/4 | 2 1/4 | 2 | 5/16 | 1 1/2 | .04 | .... | .25 | 0 |
| 1 | 1 1/4 | 0 | 1 1/8 | 3 1/4 | 2 3/4 | 3/8 | 2 1/4 | .06 | .... | .75 | 1 |
| 1 1/2 | 1 3/4 | 11/16 | 1 1/2 | 4 1/4 | 3 5/8 | 1/2 | 2 1/4 | .13 | .19 | 1.6 | 1 1/2 |
| 2 | 2 1/4 | 7/8 | 1 3/4 | 5 1/2 | 4 1/2 | 5/8 | 2 7/8 | .31 | .31 | 3.1 | 2 |
| 3 | 3 1/4 | 1 5/16 | 2 3/8 | 7 1/4 | 5 3/4 | 3/4 | 3 3/4 | .50 | .63 | 6.5 | 3 |
| 4 | 4 1/2 | 2 | 2 3/4 | 8 7/8 | 6 1/2 | 7/8 | 4 1/2 | .81 | 1.1 | 9.7 | 4 |
| 5 | 5 1/2 | 2 1/2 | 3 1/8 | 10 3/8 | 7 | 7/8 | 5 3/8 | .94 | 1.3 | 12.3 | 5 |
| 6 | 6 1/2 | 3 1/16 | 3 3/8 | 12 | 7 7/8 | 1 | 5 7/8 | 1.4 | 1.9 | 16.5 | 6 |
| 8 | 8 1/2 | 4 1/4 | 3 3/4 | 14 3/8 | 8 1/2 | 1 1/8 | 7 | 2. | 3. | 24. | 8 |
| 10 | 10 1/2 | 6 3/8 | 4 1/8 | 16 7/8 | 9 | 1 1/8 | 7 | 2. | 4.1 | 28. | 10 |
| 12 | 12 1/2 | 7 5/8 | 4 1/2 | 19 3/8 | 9 3/4 | 1 1/4 | 8 | 3. | 5.2 | 40. | 12 |

♦ REGISTERED TRADE MARK

1-B2

WILLIAMS' ♦ "AGRIPPA"
DROP-FORGED GENERAL SERVICE "C" CLAMPS



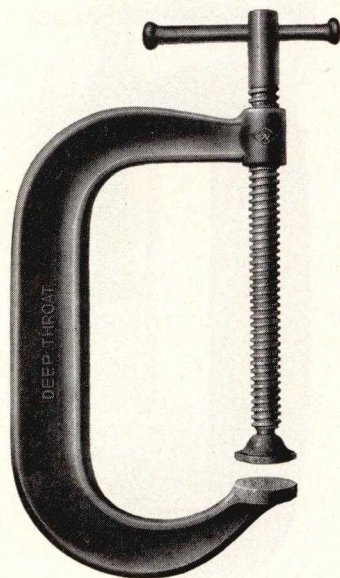
The design of these lighter Clamps enables them to provide the service formerly rendered by the heavier and clumsier steel clamps made by other processes. They are drop-forged from a special grade of strong, tough steel and are heat-treated. This process increases still further their strength and reduces any liability of springing.

The Screws, fitted with adjustable handle, are made of special steel, hardened and tempered; threaded U. S. Standard. The Swivels are drop-forged.

| No. | Capacity | | Depth of Throat from Center of Screw | Extreme Dimensions of Body | | Screw | | Size Handle | | Weight Each, Lbs. | | | No. |
|------------|-----------|-----------|--------------------------------------|----------------------------|--------------|------------|------------------------------|-------------|--------------|--------------------------------|-------------------|----------------|------------|
| | Max. | Min. | | Length | Width | Diam. | Length under Hd. inc. Swivel | Diam. | Lgth. | Extra Screw, Handle and Swivel | Extra Swivel Only | Clamp Complete | |
| 103 | 3 | 0 | 2 | 6 7/8 | 4 3/8 | 5/8 | 5 5/8 | 5/16 | 5 1/2 | .69 | .13 | 2.6 | 103 |
| 104 | 4 | 0 | 2 3/8 | 8 1/4 | 5 1/8 | 3/4 | 6 7/8 | 3/8 | 7 | 1.2 | .19 | 4.3 | 104 |
| 106 | 6 | 2 | 2 1/2 | 10 3/8 | 5 3/8 | 3/4 | 6 7/8 | 3/8 | 7 | 1.2 | .19 | 5.5 | 106 |
| 108 | 8 | 4 | 2 5/8 | 12 1/2 | 5 1/2 | 3/4 | 6 7/8 | 3/8 | 7 | 1.2 | .19 | 7. | 108 |
| 110 | 10 | 6 | 2 3/4 | 14 5/8 | 5 3/4 | 3/4 | 6 7/8 | 3/8 | 7 | 1.2 | .19 | 7.5 | 110 |
| 112 | 12 | 8 | 2 7/8 | 16 7/8 | 6 | 3/4 | 6 7/8 | 3/8 | 7 | 1.2 | .19 | 9.5 | 112 |
| 115 | 15 | 10 | 3 1/16 | 20 1/4 | 6 1/2 | 7/8 | 8 1/8 | 7/16 | 8 | 1.9 | .25 | 13.5 | 115 |
| 118 | 18 | 13 | 3 1/4 | 23 1/2 | 7 | 7/8 | 8 1/8 | 7/16 | 8 | 1.9 | .25 | 17. | 118 |

♦ REGISTERED TRADE MARK

WILLIAMS' DEEP THROAT STANDARD PATTERN
DROP-FORGED "C" CLAMPS
FOR LIGHT DUTY



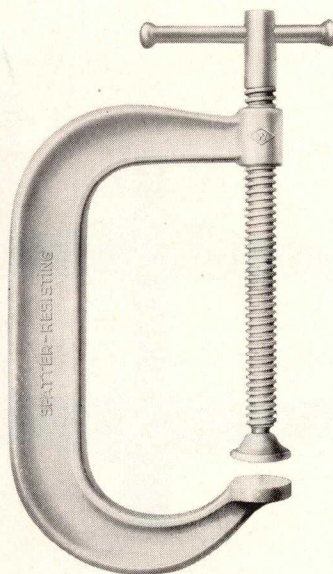
Standard for body-builders, woodworkers and kindred trades. All parts except screws are shot-blasted.

Especially designed for use where the clearance provided by a deep throat is required, as in body building, welding, wood working, etc. Drop-forged from an unusually strong special steel and heat-treated for maximum strength, they combine dependable strength with minimum weight.

The Screws, fitted with adjustable handle, are made from tough, wrought steel, heat-treated and threaded especially for strength and rapid adjustment. Furnished with wrought steel Swivel, as illustrated.

| No. | Capacity | | Depth of Throat from Center of Screw | Extreme Dimensions of Body | | Screw | | Weight Each, Lbs. | | | No. |
|------------|----------|------|--------------------------------------|----------------------------|-------|-------|-----------------|-------------------|-------------------|-----------------|------------|
| | Max. | Min. | | Length | Width | Diam. | Length Over All | Screw and Swivel | Extra Swivel Only | Clamps Complete | |
| 402 | 2 | 0 | 2 | 4 7/8 | 3 3/4 | 1/2 | 4 3/4 | .28 | .03 | 1.1 | 402 |
| 403 | 3 | 0 | 2 3/8 | 6 1/8 | 4 1/8 | 1/2 | 6 | .34 | .03 | 1.5 | 403 |
| 404 | 4 | 0 | 2 3/4 | 7 5/8 | 4 3/4 | 5/8 | 8 1/8 | .69 | .06 | 2.3 | 404 |
| 406 | 6 | 0 | 3 5/8 | 10 1/4 | 6 | 5/8 | 10 1/4 | .81 | .06 | 3.8 | 406 |
| 408 | 8 | 2 | 4 1/2 | 12 3/4 | 7 | 3/4 | 10 5/8 | 1.3 | .06 | 5.5 | 408 |
| 410 | 10 | 3 | 5 3/8 | 15 1/4 | 8 1/8 | 3/4 | 11 3/4 | 1.4 | .06 | 8.3 | 410 |
| 412 | 12 | 4 | 5 3/4 | 18 | 9 3/8 | 7/8 | 13 | 2.1 | .13 | 12.5 | 412 |

WILLIAMS' DEEP THROAT SPATTER RESISTING
DROP-FORGED "C" CLAMPS
FOR LIGHT DUTY



Spatter-Resisting for welding. Cadmium-plated to resist the adherence of welding spatter to the swivel and screw.

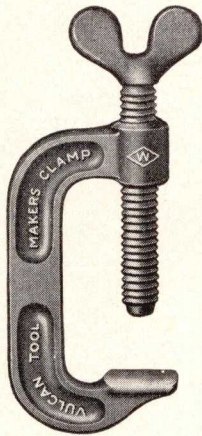
Especially designed for use where the clearance provided by a deep throat is required, as in body building, welding, wood working, etc. Drop-forged from an unusually strong special steel and heat-treated for maximum strength, they combine dependable strength with minimum weight.

The Screws, fitted with adjustable handle, are made from tough, wrought steel, heat-treated and threaded especially for strength and rapid adjustment. Furnished with wrought steel Swivel, as illustrated.

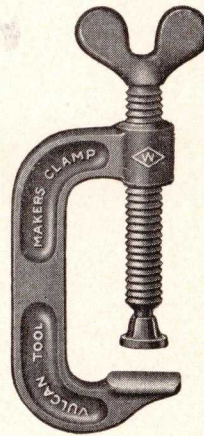
Standard Clamps will be furnished unless otherwise specified.

| No. | Capacity | | Depth of Throat from Center of Screw | Extreme Dimensions of Body | | Screw | | Weight Each, Lbs. | | | No. |
|-------|----------|------|--------------------------------------|----------------------------|-------|-------|-----------------|-------------------|-------------------|-----------------|-------|
| | Max. | Min. | | Length | Width | Diam. | Length Over All | Screw, and Swivel | Extra Swivel Only | Clamps Complete | |
| 402-S | 2 | 0 | 2 | 4 7/8 | 3 3/4 | 1/2 | 4 3/4 | .28 | .03 | 1.1 | 402-S |
| 403-S | 3 | 0 | 2 3/8 | 6 1/8 | 4 1/8 | 1/2 | 6 | .34 | .03 | 1.5 | 403-S |
| 404-S | 4 | 0 | 2 3/4 | 7 5/8 | 4 3/4 | 5/8 | 8 1/8 | .69 | .06 | 2.3 | 404-S |
| 406-S | 6 | 0 | 3 5/8 | 10 1/4 | 6 | 5/8 | 10 1/4 | .81 | .06 | 3.8 | 406-S |
| 408-S | 8 | 2 | 4 1/2 | 12 3/4 | 7 | 3/4 | 10 5/8 | 1.3 | .06 | 5.5 | 408-S |
| 410-S | 10 | 3 | 5 3/8 | 15 1/4 | 8 1/8 | 3/4 | 11 3/4 | 1.4 | .06 | 8.3 | 410-S |
| 412-S | 12 | 4 | 5 3/4 | 18 | 9 3/8 | 7/8 | 13 | 2.1 | .13 | 12.5 | 412-S |

WILLIAMS' ♦“VULCAN”
DROP-FORGED TOOL-MAKERS' “C” CLAMPS



With Plain Screw



With Swivel Screw

These Clamps are drop-forged from a strong, tough grade of steel and are heat-treated after forging to increase further their strength and reduce the liability of springing.

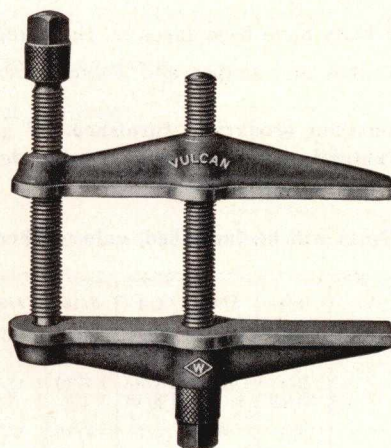
The Screws, with wings formed to permit use of lever, are supplied in two styles — Swivel and Plain. They are drop-forged from a special grade of steel and are hardened and tempered; threaded U. S. Standard.

Clamp bodies are shot-blasted; screws, black.

Clamps with Swivel Screw will be furnished, unless otherwise specified.

| No. | Capacity | | Depth of Throat | Extreme Dimensions | | Screw | | Weight Each, Lbs. | | | No. |
|-------------------|----------|--------|-----------------|--------------------|-------|-------|---------|-------------------|-------------------|----------------|-----|
| | Max. | Min. | | Length | Width | Diam. | Length | Extra Screw Only | Extra Swivel Only | Clamp Complete | |
| WITH PLAIN SCREW | | | | | | | | | | | |
| 201 | 1 | 0 | 11/16 | 2 1/8 | 1 1/2 | 5/16 | 1 11/16 | .05 | ..... | .25 | 201 |
| 202 | 2 | 5/16 | 13/16 | 3 3/8 | 1 7/8 | 3/8 | 2 7/16 | .08 | ..... | .33 | 202 |
| 203 | 3 | 11/16 | 15/16 | 4 1/2 | 2 1/8 | 3/8 | 3 3/16 | .13 | ..... | .56 | 203 |
| 204 | 4 1/4 | 1 3/16 | 1 1/8 | 6 3/8 | 2 1/2 | 7/16 | 4 1/8 | .21 | ..... | .9 | 204 |
| WITH SWIVEL SCREW | | | | | | | | | | | |
| 201 | 3/4 | 0 | 11/16 | 2 1/8 | 1 1/2 | 5/16 | 1 11/16 | .06 | .01 | .25 | 201 |
| 202 | 1 3/4 | 5/16 | 13/16 | 3 3/8 | 1 7/8 | 3/8 | 2 7/16 | .10 | .01 | .33 | 202 |
| 203 | 2 3/4 | 11/16 | 15/16 | 4 1/2 | 2 1/8 | 3/8 | 3 3/16 | .13 | .01 | .56 | 203 |
| 204 | 4 | 1 3/16 | 1 1/8 | 6 3/8 | 2 1/2 | 7/16 | 4 1/8 | .21 | .02 | .9 | 204 |

WILLIAMS' ♦"VULCAN"
DROP-FORGED MACHINISTS' CLAMPS



These Clamps are drop-forged from a strong, tough grade of carefully selected steel; all are heat-treated to increase still further their strength and to reduce the liability of springing.

The knurled portion of the hardened and tempered Screws permits rapid and easy adjustment.

The edges of the jaws are ground bright, thus adding to the appearance of the Clamp.

When ordering extra Screws specify whether for *end* or *center*; lengths given are under-head dimensions and prices are for each of either screw.

| No. | Capacity | | Screws | | | | Weight Each, Lbs. | | No. |
|------------|-------------------------|--------------------------------|--------|--------|--------|---------|-------------------------|-------------------|------------|
| | Maxi- mum Opening | Length Jaw from Screw | End | | Center | | Extra Screws Each | Complete Clamp | |
| | | | Diam. | Length | Diam. | Length | | | |
| 301 | 1 1/4 | 1 3/4 | 5/16 | 2 1/8 | 5/16 | 2 5/8 | .07 | .6 | 301 |
| 302 | 2 1/4 | 2 1/4 | 3/8 | 3 1/4 | 3/8 | 3 15/16 | .14 | 1.4 | 302 |
| 303 | 3 1/4 | 2 3/4 | 7/16 | 4 5/8 | 7/16 | 5 1/4 | .23 | 1.9 | 303 |
| 304 | 4 1/4 | 3 1/4 | 1/2 | 5 3/4 | 1/2 | 6 1/2 | .38 | 3.1 | 304 |

WILLIAMS' DROP-FORGED THUMB NUTS

BLANK OR TAPPED

These are drop-forged from a fine grade of steel that drills and taps readily; they are furnished either Blank or Tapped, tumbled smooth.

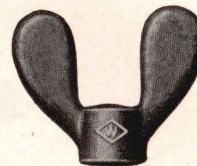
Nuts tapped U. S. Standard threads in stock. Other threads to order. Unless otherwise specified, orders for Tapped Nuts will be supplied with U. S. Standard threads.

Tapped Nuts have base faced at right angle to hole.

Special sizes and shapes and Tobin Bronze Nuts to order.



Type A



Type B

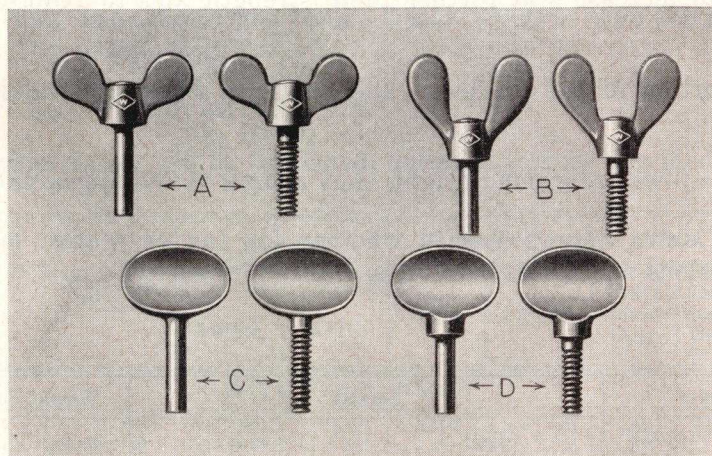
When tapping is ordered, a commercial product is furnished. If additional accuracy is required an extra charge, consistent with the special requirements, will be made. When ordering indicate pattern (A or B) by letter.

Tapped Thumb Nuts will be furnished, unless otherwise specified.

| | | | | | | | | | | |
|---|-------|-------|--------|--------|---------|-------|--------|--------|--------|-------|
| For Bolt; Size..... | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 9/16 | 5/8 | 3/4 |
| U. S. Std. (Natl. Coarse)—Threads Per Inch..... | 40 | 24 | 20 | 18 | 16 | 14 | 13 | 12 | 11 | 10 |
| Extreme Width across Wings | | | | | | | | | | |
| Type A..... | 3/4 | 15/16 | 1 1/8 | 1 7/16 | 1 11/16 | 2 | 2 1/4 | 2 9/16 | 2 3/4 | 3 1/4 |
| Type B..... | 25/32 | 1 | 1 3/16 | 1 3/8 | 1 5/8 | 1 7/8 | 2 1/16 | 2 3/8 | 2 9/16 | 3 |
| Diameter, Top of Barrel..... | 1/4 | 5/16 | 3/8 | 7/16 | 17/32 | 5/8 | 21/32 | 3/4 | 13/16 | 15/16 |
| Weight per 100, Blank or Threaded..... | .62 | 1.3 | 2.3 | 4. | 6.2 | 9.1 | 12.7 | 16.2 | 22.5 | 37. |

WILLIAMS' DROP-FORGED THUMB SCREWS

All Types Furnished Either Blank or Threaded



Drop-forged from a fine grade of steel that threads readily and tumbled smooth. Special sizes and shapes and Tobin Bronze Screws to order.

Dies for the following Screws have not yet been made, consequently these sizes are not now carried in stock; 7/16 inch diameter Type B, 9/16 inch diameter Types A and B, 3/4 inch diameter Types A, B and D.

(Continued on next page)

1-52

WILLIAMS' DROP-FORGED THUMB SCREWS

BLANK, OR THREADED

See illustrations on opposite page

Lengths, longer than those listed, can be furnished specially from available dies; intermediate lengths take price of next longer length.

Screws with U. S. Standard threads in stock. Whitworth Standard supplied at regular prices; **other threading to order**. Unless other threads are specified, Threaded Screws will be furnished with U. S. Standard threads.

Screws with special points can be supplied to order.

When ordering indicate pattern by letter.

When threading is ordered, a commercial product is furnished. If additional accuracy is required an extra charge, consistent with the special requirements, will be made.

Threaded Thumb Screws will be furnished, unless otherwise specified.

| Width of Head | Diameter Screw and U. S. Standard (Natl. Coarse) Threads per Inch | | | | | | | | | | Width of Head |
|---------------|---|------------|-----------|------------|-----------|------------|-----------|------------|-----------|-----------|---------------|
| | 1/8 40 | 3/16 24 | 1/4 20 | 5/16 18 | 3/8 16 | 7/16 14 | 1/2 13 | 9/16 12 | 5/8 11 | 3/4 10 | |
| Type A | 3/4 | 15/16 | 1 1/8 | 1 7/16 | 1 11/16 | 2 | 2 1/4 | ..... | 2 3/4 | ..... | Type A |
| B | 25/32 | 1 | 1 3/16 | 1 3/8 | 1 5/8 | ..... | 2 1/16 | ..... | 2 9/16 | ..... | B |
| C-D | 19/32 | 27/32 | 1 | 1 3/16 | 1 3/8 | 1 9/16 | 1 3/4 | 1 7/8 | 2 1/16 | *2 1/4 | C-D |

* Type C only; D not made.

BLANK, Approximate Weight per 100

| Length Under Head | | | | | | | | | | | Length Under Head |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------|
| 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1/4 |
| 1/2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1/2 |
| 3/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3/4 |
| 1 | .94 | 2.1 | 4. | 6.2 | 10. | 13.7 | 16.2 | 21. | 26.8 | 38.7 | 1 |
| 1 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 1/4 |
| 1 1/2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 1/2 |
| 1 3/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 3/4 |
| 2 | ..... | 3.4 | 5.3 | 7.8 | 12.5 | 16.5 | 21.2 | 27.5 | 34.3 | 53. | 2 |
| 2 1/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 1/4 |
| 2 1/2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 1/2 |
| 2 3/4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 3/4 |
| 3 | ..... | ..... | 7.8 | 10.6 | 16. | 21.2 | 27. | 35.3 | 46.5 | 66. | 3 |
| 3 1/2 | ..... | ..... | ..... | 13.7 | 19.3 | 26.2 | 32.5 | 42.8 | 54.6 | 78.7 | 3 1/2 |
| 4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 4 |

THREADED, Approximate Weight per 100

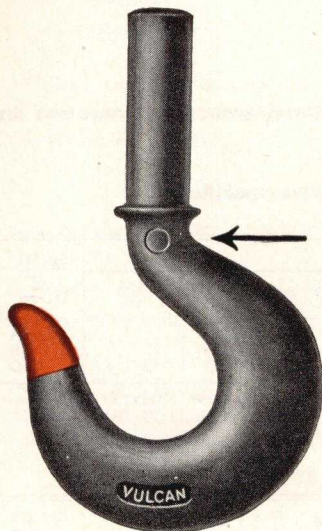
U. S. Standard Threads will be furnished, unless otherwise specified.

| | 1/4 | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 1 3/4 | 2 | 2 1/4 | 2 1/2 | 2 3/4 | 3 | 3 1/2 | 4 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1/4 | | | | | | | | | | | | | | |
| 1/2 | | | | | | | | | | | | | | |
| 3/4 | | | | | | | | | | | | | | |
| 1 | .79 | 1.8 | 3.4 | 5.2 | 8.4 | 11.5 | 13.6 | 17.6 | 22.5 | 32.5 | ..... | ..... | ..... | ..... |
| 1 1/4 | | | | | | | | | | | | | | |
| 1 1/2 | | | | | | | | | | | | | | |
| 1 3/4 | | | | | | | | | | | | | | |
| 2 | | 2.9 | 4.5 | 6.5 | 10.5 | 13.9 | 17.8 | 23.1 | 28.8 | 44.5 | ..... | ..... | ..... | ..... |
| 2 1/4 | | | | | | | | | | | | | | |
| 2 1/2 | | | | | | | | | | | | | | |
| 2 3/4 | | | | | | | | | | | | | | |
| 3 | | | 6.5 | 8.9 | 13.4 | 17.8 | 22.7 | 29.7 | 39. | 55.4 | ..... | ..... | ..... | ..... |
| 3 1/2 | | | | 11.5 | 16.2 | 22. | 27.3 | 36. | 45.9 | 66.1 | ..... | ..... | ..... | ..... |
| 4 | | | | | | | | | | | | | | |

WILLIAMS' ♦"VULCAN"
DROP-FORGED HOIST HOOKS

The Hooks with the Orange Tip

SHANK PATTERN



Heat Treating. After forging, every "Vulcan" Hook is accurately heat-treated for maximum strength and toughness—the liability of breakage is reduced to the minimum.

Proof-Testing. To insure proper service at listed capacity every hook, after heat-treatment is proof-tested on a standard tension machine to *fifty per cent beyond* its rated "Safe Working Load." Each Hook so tested is stamped O, as illustrated, and hence can be readily identified as "proof-tested."

(Continued on following page)

† Shanks of Nos. 13, 14, 15, 15A, 16 and 16A can be made longer if desired at an additional charge per extra inch or fraction thereof.

‡ 15A and 16A Hooks are made from special alloy steel; others from carbon steel.

*Hook shanks, Nos. 2 thru 12, are 1/16" to 3/32" larger to allow for machining; Nos. 13 thru 16 are rough machined plus or minus 1/64".

| No. | Shank | | Opening, or Throat | Extreme Dimensions | | Capacity Shanks Blank, Tons of 2000 lbs. | | | Weight Each, Lbs. | No. |
|------|--|--------|--------------------------|-----------------------|--------|---|--|--|-------------------------|------|
| | *Diam., Nomi- nal Rough Size | Length | | Length | Width | Safe Working Load | Average Load at Elastic Limit | Approx- imate Load Re- quired to Straighten out | | |
| 2 | 1/2 | 2 | 1 | 5 | 2 7/8 | .5 | .9 | 1.9 | .59 | 2 |
| 3 | 9/16 | 2 1/4 | 1 1/16 | 5 1/2 | 3 1/8 | .6 | 1.2 | 2.3 | .78 | 3 |
| 4 | 5/8 | 2 1/2 | 1 1/8 | 6 | 3 1/2 | .7 | 1.5 | 3. | 1. | 4 |
| 5 | 3/4 | 2 3/4 | 1 1/4 | 6 3/4 | 3 7/8 | 1.2 | 2.5 | 5.7 | 1.6 | 5 |
| 6 | 7/8 | 3 | 1 3/8 | 7 1/2 | 4 3/8 | 1.7 | 3.5 | 7. | 2.1 | 6 |
| 7 | 1 | 3 1/4 | 1 1/2 | 8 1/4 | 4 7/8 | 2.1 | 4.2 | 8.5 | 3. | 7 |
| 8 | 1 1/8 | 3 1/2 | 1 3/4 | 9 1/4 | 5 5/8 | 2.5 | 5.4 | 10. | 4.4 | 8 |
| 9 | 1 1/4 | 3 3/4 | 1 7/8 | 10 1/4 | 6 3/8 | 3. | 6.2 | 13. | 6.2 | 9 |
| 10 | 1 3/8 | 4 | 2 1/16 | 11 | 6 7/8 | 4. | 8. | 17. | 8. | 10 |
| 11 | 1 1/2 | 4 1/4 | 2 1/4 | 12 | 7 1/2 | 4.7 | 9. | 19. | 10. | 11 |
| 12 | 1 5/8 | 4 1/2 | 2 1/2 | 13 | 8 1/4 | 5.5 | 11. | 26. | 13.3 | 12 |
| 13 | 1 3/4 | †5 | 3 | 14 1/2 | 9 1/4 | 6.8 | 13. | 32. | 17.8 | 13 |
| 14 | 2 | †5 1/2 | 3 3/8 | 16 | 11 | 8. | 17. | 35. | 26.7 | 14 |
| 15 | 2 3/8 | †6 | 4 | 17 7/8 | 13 1/2 | 11. | 21. | 48. | 44. | 15 |
| †15A | 2 3/8 | †6 | 4 | 17 7/8 | 13 1/2 | 15. | 25. | 55. | 46. | †15A |
| 16 | 2 3/4 | †7 | 4 1/2 | 21 1/2 | 15 | 20. | 40. | 80. | 70. | 16 |
| †16A | 2 3/4 | †7 | 4 1/2 | 21 1/2 | 15 | 25. | 50. | .... | 73. | †16A |

WILLIAMS' ♦ "VULCAN"
DROP-FORGED HOIST HOOKS

The Hooks with the Orange Tip

EYE PATTERN—WELDLESS

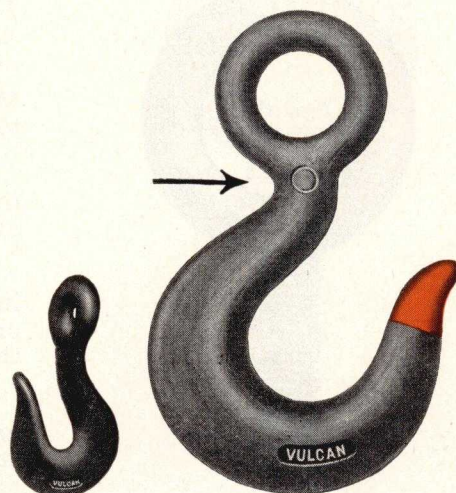
(Continued from preceding page)

Use the Hook with the orange tip — no other standard line offers such assurance of safety and care in manufacture.

For Safety Chains on railroad cars, a Hook, approximately No. 27 in size and with eye at right angle, can be furnished to order in reasonable quantities; see small illustration. Full size drawing on request.

Tobin Bronze Hooks from standard or special dies to order in quantities; prices on application.

‡ 36A Hook is made from special alloy steel; others from carbon steel.



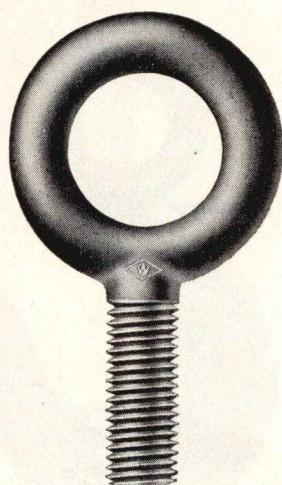
| No. | Diameter of Eye | | Opening, or Throat | Extreme Dimensions | | Capacity, Tons of 2000 lbs. | | | Weight Each, Lbs. | No. |
|------|-----------------|---------|--------------------|--------------------|--------|-----------------------------|-------------------------------|---|-------------------|------|
| | Inside | Outside | | Length | Width | Safe Working Load | Average Load at Elastic Limit | Approximate Load Required to Straighten out | | |
| 22 | 3/4 | 1 1/2 | 1 | 4 3/8 | 2 7/8 | .5 | .9 | 1.9 | .53 | 22 |
| 23 | 7/8 | 1 3/4 | 1 1/16 | 4 7/8 | 3 1/8 | .6 | 1.2 | 2.3 | .75 | 23 |
| 24 | 1 | 2 | 1 1/8 | 5 3/8 | 3 1/2 | .7 | 1.5 | 3. | 1.1 | 24 |
| 25 | 1 1/8 | 2 1/4 | 1 1/4 | 6 3/16 | 3 7/8 | 1.2 | 2.5 | 5.7 | 1.5 | 25 |
| 26 | 1 1/4 | 2 1/2 | 1 3/8 | 6 7/8 | 4 3/8 | 1.7 | 3.5 | 7. | 2.2 | 26 |
| 27 | 1 3/8 | 2 3/4 | 1 1/2 | 7 5/8 | 4 7/8 | 2.1 | 4.2 | 8.5 | 3. | 27 |
| 28 | 1 1/2 | 3 | 1 3/4 | 8 9/16 | 5 5/8 | 2.5 | 5.4 | 10. | 4.4 | 28 |
| 29 | 1 5/8 | 3 1/4 | 1 7/8 | 9 9/16 | 6 3/8 | 3. | 6.2 | 13. | 6. | 29 |
| 30 | 1 3/4 | 3 1/2 | 2 1/16 | 10 3/8 | 6 7/8 | 4. | 8. | 17. | 8. | 30 |
| 31 | 2 | 4 | 2 1/4 | 11 1/2 | 7 1/2 | 4.7 | 9. | 19. | 10.3 | 31 |
| 32 | 2 3/8 | 4 5/8 | 2 1/2 | 13 | 8 1/4 | 5.5 | 11. | 26. | 14. | 32 |
| 33 | 2 3/4 | 5 1/4 | 3 | 14 3/4 | 9 1/4 | 6.8 | 13. | 32. | 20. | 33 |
| 34 | 3 1/8 | 6 1/8 | 3 3/8 | 16 3/4 | 11 | 8. | 17. | 35. | 31.5 | 34 |
| 35 | 3 1/2 | 7 | 4 | 19 1/8 | 13 1/2 | 11. | 21. | 48. | 51.7 | 35 |
| 36 | 4 | 8 1/2 | 4 1/2 | 22 3/4 | 15 | 20. | 40. | 80. | 89. | 36 |
| ‡36A | 4 | 8 1/2 | 4 1/2 | 22 3/4 | 15 | 25. | 50. | ..... | 87. | ‡36A |

♦ REGISTERED TRADE MARK

WILLIAMS' ♦"VULCAN"
WELDLESS EYE BOLTS

PLAIN PATTERN

Threaded or Blank



These carbon steel Eye Bolts are specially heat-treated, after forging, to increase further their strength and toughness and reduce the liability of breakage.

To insure proper service at listed capacity, every "Vulcan" Eye Bolt, after heat-treatment, and before threading is proof-tested on a standard tension machine to fifty per cent beyond its "Safe Working Load."

Each Eye Bolt so tested is stamped O near its piece number, which appears in raised letters on the forging, and hence can be readily identified as "proof-tested."

U. S. Std. Threaded Eye Bolts of Standard length are in stock; threaded prices are for these with either U. S. or Whitworth Std. Threads; longer lengths and special threads extra.

Tobin Bronze Eye Bolts for marine work from standard or special dies to order in quantities; prices on request. Prices given for special Eye Bolts on receipt of drawings, or models and specifications.

(Continued on following page)

When ordering, please state whether Threaded or Blank are desired;
Threaded will be supplied, unless otherwise specified.

| No. | Shank | | | Diameter Eye | | Capacity Blanks; Tons of 2000 lbs. | | Weight Each, Lbs. | | No. |
|-----|--|---|---|--------------|---------|---|-------------------------------------|-------------------------|--------------------|-----|
| | Diam.; Nominal Rough Size; Blank | Standard | | Inside | Outside | Safe Work- ing Load | Break- ing Strain, Approx. | Blank | Threaded | |
| | | Lengths under Eye Blank and Threaded | Lengths available in Stock; Blank | | | | | Stand- ard Length | Standard Length | |
| 3 | 3/8 | 1 1/4 | 4 1/2 | 1 | 1 21/32 | .7 | 3. | .18 | .17 | 3 |
| 4 | 7/16 | 1 3/8 | 4 1/2 | 1 3/32 | 1 27/32 | 1. | 4. | .26 | .23 | 4 |
| 5 | 1/2 | 1 1/2 | 4 1/2 | 1 3/16 | 2 1/16 | 1.3 | 5. | .35 | .33 | 5 |
| 6 | 9/16 | 1 5/8 | 4 1/2 | 1 9/32 | 2 9/32 | 1.5 | 6. | .53 | .50 | 6 |
| 7 | 5/8 | 1 3/4 | 4 1/2 | 1 3/8 | 2 1/2 | 2. | 8. | .72 | .68 | 7 |
| 8 | 3/4 | 2 | 5 | 1 1/2 | 2 13/16 | 3. | 12. | 1.2 | 1.1 | 8 |
| 9 | 7/8 | 2 1/4 | 5 | 1 11/16 | 3 1/4 | 3.5 | 16. | 1.6 | 1.5 | 9 |
| 10 | 1 | 2 1/2 | 5 | 1 13/16 | 3 9/16 | 4. | 20. | 2.2 | 2 1 | 10 |
| 11 | 1 1/8 | 2 3/4 | 5 | 2 | 4 | 5. | 23. | 3.2 | 3. | 11 |
| 12 | 1 1/4 | 3 | 6 | 2 3/16 | 4 7/16 | 7.5 | 33. | 4.5 | 4.2 | 12 |
| 14 | 1 1/2 | 3 1/2 | 6 | 2 1/2 | 5 3/16 | 9. | 42. | 7.2 | 6.8 | 14 |
| 15 | 1 3/4 | 3 3/4 | 6 | 2 7/8 | 6 1/16 | 11. | 53. | 11.6 | 10.9 | 15 |
| 16 | 2 | 4 | 6 | 3 1/4 | 6 7/8 | 13. | 68. | 16.1 | 15.1 | 16 |
| 17 | 2 1/2 | 5 | 6 | 4 | 8 9/16 | 16. | 85. | 33. | 31. | 17 |

WILLIAMS' ♦ "VULCAN"
WELDLESS EYE BOLTS

SHOULDER PATTERN

Threaded or Blank

(Continued)

On standard length Threaded Eye Bolts of Shoulder Pattern the thread runs within 1/8" (No. 21) to 3/4" (No. 36) of shoulder, which is faced.

Prices for either Plain, or Shoulder Eye Bolts of "Extra Length" apply only to forgings which may be in stock at time ordered.

Price on special length Blank or Threaded Eye Bolts on application.

To determine List Price for Threaded Eye Bolts of other than standard length:—

1. Determine price of Blank (see A, B and C in Price Sheet).
2. Add for threading (see D).
3. If quantity is less than 100 of same pattern and shank diameter, shorter or longer than standard, add \$3.60 NET for the lot to cover "set-up" charge. Shorter lengths than standard take Standard Threaded List, plus "set-up" charge, if any.

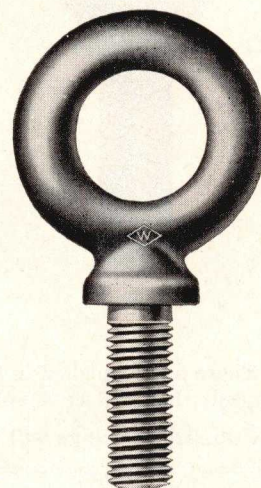
Example:—50 No. 28—8" long, Threaded 3"

Blank—Std. Length 2".....(A).....\$.73
Extra to Max. 5".....(B)......57
Additional 3" @ 28c.....(C)......84
Threading—3" @ 18c.....(D)......54

LIST PRICE, Each.....\$2.68

"Set-Up" NET charge, \$3.60 extra for the lot.

When ordering, please state whether Threaded or Blank are desired;
Threaded will be supplied, unless otherwise specified.



| No. | Shank | | | Eye, Diameter | | Capacity Blanks; Tons of 2000 lbs. | | Weight Each, Lbs. | | No. |
|-----|--|--|---|---------------|---------|---|-------------------------------------|-------------------------|--------------------|-----|
| | Diam.; Nominal Rough Size; Blank | Standard Lengths under Shoulder Blank and Threaded | Lengths available in Stock; Blank | Inside | Outside | Safe Work- ing Load | Break- ing Strain, Approx. | Blank | Threaded | |
| | | | | | | | | Stand- ard Length | Standard Length | |
| 21 | 1/4 | 1 | 3 | 3/4 | 1 3/16 | .2 | 1.5 | .05 | .05 | 21 |
| 22 | 5/16 | 1 1/8 | 4 | 7/8 | 1 7/16 | .4 | 2. | .11 | .1 | 22 |
| 23 | 3/8 | 1 1/4 | 4 1/2 | 1 | 1 21/32 | .7 | 3. | .21 | .2 | 23 |
| 24 | 7/16 | 1 3/8 | 4 1/2 | 1 3/32 | 1 27/32 | 1. | 4. | .28 | .26 | 24 |
| 25 | 1/2 | 1 1/2 | 4 1/2 | 1 3/16 | 2 1/16 | 1.3 | 5. | .43 | .4 | 25 |
| 26 | 9/16 | 1 5/8 | 4 1/2 | 1 9/32 | 2 9/32 | 1.5 | 6. | .58 | .54 | 26 |
| 27 | 5/8 | 1 3/4 | 4 1/2 | 1 3/8 | 2 1/2 | 2. | 8. | .77 | .72 | 27 |
| 28 | 3/4 | 2 | 5 | 1 1/2 | 2 13/16 | 3. | 12. | 1.2 | 1.1 | 28 |
| 29 | 7/8 | 2 1/4 | 5 | 1 11/16 | 3 1/4 | 3.5 | 16. | 1.9 | 1.8 | 29 |
| 30 | 1 | 2 1/2 | 5 | 1 13/16 | 3 9/16 | 4. | 20. | 2.6 | 2.4 | 30 |
| 31 | 1 1/8 | 2 3/4 | 5 | 2 | 4 | 5. | 23. | 3.7 | 3.5 | 31 |
| 32 | 1 1/4 | 3 | 6 | 2 3/16 | 4 7/16 | 7.5 | 33. | 4.9 | 4.6 | 32 |
| 34 | 1 1/2 | 3 1/2 | 6 | 2 1/2 | 5 3/16 | 9. | 42. | 8. | 7.5 | 34 |
| 35 | 1 3/4 | 3 3/4 | 6 | 2 7/8 | 6 1/16 | 11. | 53. | 13.3 | 12.5 | 35 |
| 36 | 2 | 4 | 6 | 3 1/4 | 6 7/8 | 13. | 68. | 19.2 | 18. | 36 |

WILLIAMS' MISCELLANEOUS EYE BOLTS

CARBON STEEL — WELDLESS



Type A



B 17, 25, 30, 35



Type B

These are furnished in two styles or types, A and B, and are carried in stock with shanks blank (not threaded), but will be supplied threaded to order at extra charge.

Full size drawings will be sent on request.

| Type | No. | Shank | | Diameter Eye | | No. | Type |
|------|-----|----------|--------|--------------|---------|-----|------|
| | | Diameter | Length | Inside | Outside | | |
| A | 1 | 1/4 | * 3/4 | 3/8 | 3/4 | 1 | A |
| | 10 | 3/8 | 3 | 3/4 | 1 3/8 | 10 | |
| | 12 | 3/8 | 3 | 3/8 | 1 | 12 | |
| A | 11 | 7/16 | 2 3/16 | 1 7/32 | 2 7/32 | 11 | A |
| | 13 | 7/16 | 2 3/4 | 5/8 | 1 3/8 | 13 | |
| | 14 | 15/32 | 1 5/8 | 1/2 | 1 1/4 | 14 | |
| A | 15 | 1/2 | 2 | 9/16 | 1 1/4 | 15 | A |
| | 16 | 1/2 | 3/4 | 1 3/8 | 2 3/8 | 16 | |
| | 17 | 1/2 | 4 | 1 | 1 3/4 | 17 | |
| A | 20 | 9/16 | 2 | 5/8 | 1 1/2 | 20 | A |
| | 25 | 5/8 | 1 3/4 | 7/8 | 1 5/8 | 25 | |
| | 26 | 5/8 | *1 3/4 | 1 1/8 | 2 | 26 | |
| A | 40 | 13/16 | 3 1/4 | 3/4 | 2 1/8 | 40 | A |
| | 55 | 1 1/16 | 1 5/16 | 7/8 | 2 3/8 | 55 | |
| | 58 | 1 1/16 | 4 1/8 | 1 1/8 | 2 7/8 | 58 | |
| B | 1 | 1/4 | 1/2 | 3/8 | 3/4 | 1 | B |
| | 4 | 5/16 | 3 | 5/16 | 15/16 | 4 | |
| | 5 | 3/8 | 6 | 1/2 | 1 1/8 | 5 | |
| B | 10 | 7/16 | 1 1/8 | 1 | 1 3/4 | 10 | B |
| | 15 | 1/2 | *1 1/2 | 13/16 | 1 13/16 | 15 | |
| | 16 | 1/2 | 3 1/4 | 7/16 | 1 7/16 | 16 | |
| B | 17 | †1/2 | 1 3/4 | 1/2 | 1 1/8 | 17 | B |
| | 25 | †5/8 | 2 3/8 | 1/2 | 1 1/4 | 25 | |
| | 26 | 5/8 | 2 3/4 | 11/16 | 1 11/16 | 26 | |
| B | 27 | 5/8 | 3/4 | 1 1/2 | 2 1/2 | 27 | B |
| | 30 | †11/16 | 2 1/2 | 9/16 | 1 7/16 | 30 | |
| | 35 | †3/4 | 2 3/4 | 5/8 | 1 5/8 | 35 | |
| B | 45 | 7/8 | 4 1/8 | 1 1/8 | 2 3/8 | 45 | |
| | 50 | 15/16 | *5 | 1 1/8 | 2 3/8 | 50 | |
| | 55 | 1 | 2 3/4 | 3/4 | 2 | 55 | |

† Shanks of B-17, 25, 30 and 35 are 7/16, 1/2, 9/16 and 5/8 inch in diameter for 3/4, 1, 1, and 1-1/8 inch from end respectively, as illustrated above.

* Also carried in stock in the following maximum lengths:—No. A-1, 3"; No. A-26, 4-1/2"; No. B-15, 4-1/2"; No. B-50, 8".

**WILLIAMS' ♦ "VULCAN"
MACHINE HANDLE FORGINGS**

UNFINISHED

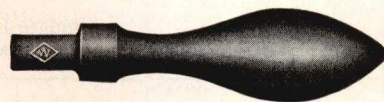
With Smooth, Planished Surface

BALL PATTERN



| Number | 00 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Extreme Length..... | 2 | 2 1/4 | 2 3/4 | 3 1/4 | 3 7/8 | 4 1/2 | 5 1/8 | 5 7/8 | 6 5/8 |
| Standard Length, Shank ... | 1/2 | 1/2 | 5/8 | 3/4 | 7/8 | 1 | 1 1/8 | 1 1/4 | 1 1/2 |
| Maximum Length, Shank .. | 11/16 | 3/4 | 1 | 1 1/8 | 1 1/4 | 1 1/2 | 1 7/8 | 2 | 2 1/8 |
| Diameter, Shank..... | 5/16 | 11/32 | 13/32 | 15/32 | 15/32 | 17/32 | 19/32 | 11/16 | 3/4 |
| Weight Each, Lbs..... | .06 | .09 | .13 | .22 | .31 | .37 | .62 | 1.3 | 1.7 |

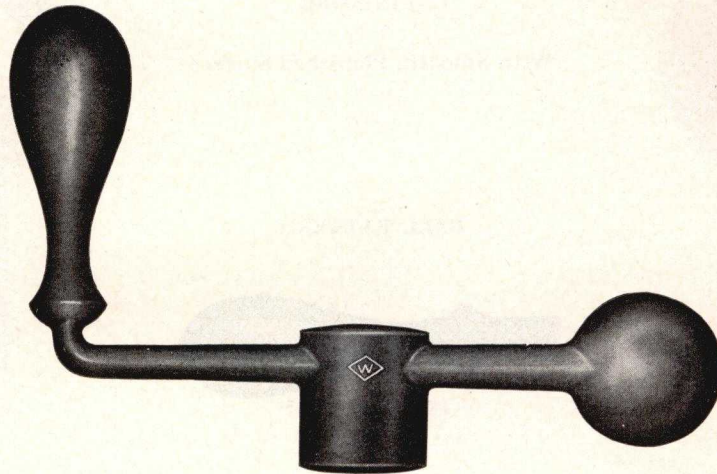
CONE PATTERN



| Number | 11 | 13 | 15 | 16 |
|-----------------------------|-------|-------|-------|-------|
| Extreme Length..... | 3 1/2 | 4 1/2 | 5 1/2 | 6 |
| Standard Length, Shank..... | 1/2 | 3/4 | 7/8 | 1 1/8 |
| Maximum Length, Shank..... | 11/16 | 1 1/8 | 1 3/8 | 1 1/2 |
| Diameter, Shank..... | 3/8 | 7/16 | 1/2 | 9/16 |
| Weight Each, Lbs..... | .22 | .43 | .75 | 1.1 |

♦ REGISTERED TRADE MARK

WILLIAMS' ♦"VULCAN"
DROP-FORGED BALANCE HANDLES



Unfinished are plain forgings without any hole in hub.

Broached have holes finished, but are otherwise plain forgings.

Finished are broached, ground, polished, case-hardened all over and gray enameled.

The broached openings are made with corners slightly rounded to prevent breakage and a slight clearance is provided.

Holes are regularly finished to standard sizes given below but each forging admits of broaching to the maximum dimensions stated in table. Smaller openings than standard and special sizes can be broached to order. Handles can also be supplied with round holes in hub; details on application.

| No. | Length | | | Hub | | Square Hole, Size Broached | | Ball, Diam. | Weight Each, Lbs. | No. |
|------|-------------------------|--------------|------------------------|--------|--------|-------------------------------|--------------------------|----------------|-------------------------|------|
| | C Hub to C Handle | Ex- treme | Handle Above Arm | Diam. | Length | Standard in Stock | Maxi- mum to Order | | | |
| 512 | 1 1/4 | 3 5/16 | 1 15/16 | 7/8 | 3/4 | 7/16 | 1/2 | 7/8 | .25 | 512 |
| 516 | 1 5/8 | 4 | 2 1/4 | 7/8 | 7/8 | 7/16 | 1/2 | 1 1/4 | .56 | 516 |
| ‡520 | 2 | 5 | 2 5/8 | 1 | 15/16 | 1/2 | 5/8 | 1 1/4 | .75 | ‡520 |
| ‡522 | 2 1/4 | 5 1/2 | 2 3/4 | 1 1/4 | 1 | 1/2 | 13/16 | 1 3/8 | 1.1 | ‡522 |
| ‡525 | 2 1/2 | 6 | 2 13/16 | 1 1/4 | 1 1/8 | 5/8 | 13/16 | 1 7/16 | 1.3 | ‡525 |
| 529 | 2 7/8 | 7 | 3 5/16 | 1 1/4 | 1 1/4 | 5/8 | 13/16 | 1 1/2 | 1.6 | 529 |
| 434 | 3 3/8 | 8 | 3 7/16 | ‡1 1/2 | 7/8 | 5/8 | 3/4 | 1 3/4 | 1.3 | 434 |
| 439 | 3 7/8 | 9 | 3 1/2 | ‡1 5/8 | 1 1/16 | 5/8 | 3/4 | 1 3/4 | 2.8 | 439 |

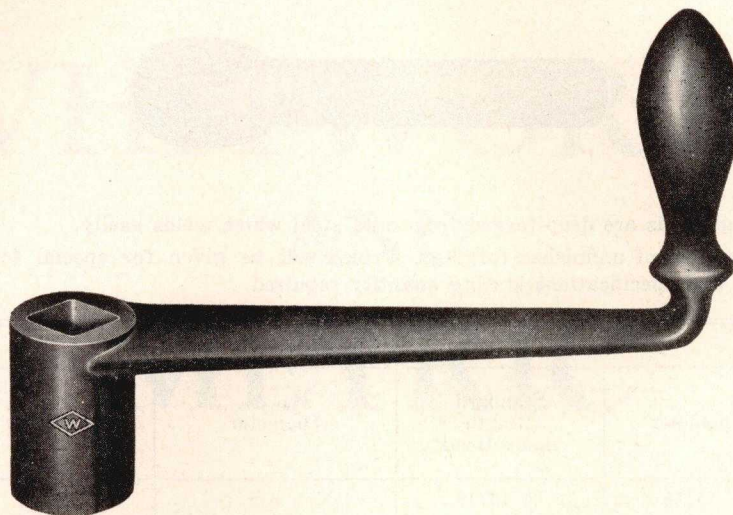
‡ Handle cone-shaped; see Crank Handle cut on opposite page.

† Hub is a sphere, flattened on top and bottom; full size drawing on request.

♦ REGISTERED TRADE MARK

1-52

WILLIAMS' ♦ "VULCAN"
DROP-FORGED CRANK HANDLES



Unfinished are plain forgings without hole in hub.

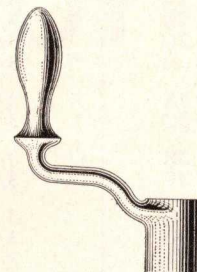
Broached have holes finished and hubs recessed or counter-bored in free end, but are otherwise plain forgings.

Finished are broached, counterbored in free end of hub, ground, polished, case-hardened all over and gray enameled.

The broached openings are made with corners slightly rounded to prevent breakage and a slight clearance is provided.

Holes are regularly finished to standard sizes given below, but each forging admits of broaching to the maximum dimensions stated. Smaller openings than standard and special sizes, running by sixteenths from 1/2 to 1 inch inclusive, and thence by eighths, can be broached to order at extra cost.

Hubs of Broached, or Finished can be cut to shorter lengths and Handles will be offset (see small cut) if desired, at an additional charge.

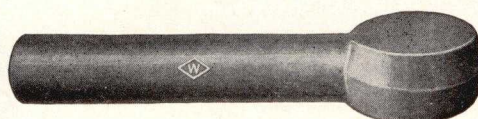


| No. | Length | | | Hub | | Square Hole Size Broached | | Weight Each, Lbs. | No. |
|-----|------------------------|--------------|------------------------|--------|---------|------------------------------|---------------------|-------------------------|-----|
| | Center to Center | Ex- treme | Handle above Arm | Diam. | Length | Standard in Stock | Maximum to Order | | |
| 00 | 1 3/4 | 2 5/8 | 2 3/8 | 1 | 1 1/4 | 1/2 | 5/8 | .38 | 00 |
| 0 | 2 1/4 | 3 1/8 | 2 1/2 | 1 | 1 1/4 | 1/2 | 5/8 | .43 | 0 |
| 1 | 3 | 4 | 2 3/4 | 1 1/4 | 1 1/2 | 9/16 | 13/16 | .78 | 1 |
| 2 | 3 1/2 | 4 1/2 | 2 7/8 | 1 1/16 | 1 5/16 | 1/2 | 5/8 | .75 | 2 |
| 4 | 4 | 5 1/8 | 3 1/8 | 1 1/4 | 1 3/8 | 9/16 | 13/16 | 1. | 4 |
| 6 | 5 | 6 1/8 | 3 1/8 | 1 1/4 | 1 13/16 | 5/8 | 13/16 | 1.1 | 6 |
| 8 | 6 | 7 1/8 | 3 1/8 | 1 1/4 | 1 15/16 | 11/16 | 13/16 | 1.2 | 8 |
| 10 | 7 | 8 1/4 | 3 3/8 | 1 3/8 | 2 1/16 | 3/4 | 7/8 | 1.6 | 10 |
| 12 | 8 | 9 3/8 | 3 5/8 | 1 9/16 | 2 7/16 | 7/8 | 1 | 2.4 | 12 |
| 14 | 9 1/8 | 10 1/2 | 3 3/4 | 1 1/2 | 2 1/2 | 7/8 | 1 | 2.5 | 14 |
| 16 | 10 | 11 1/2 | 4 | 1 3/4 | 3 | 1 | 1 1/8 | 3.2 | 16 |

♦ REGISTERED TRADE MARK

WILLIAMS' DROP-FORGED ROD ENDS

UNFINISHED



These Rod or Stub Ends are drop-forged from mild steel which welds easily.

Dimensions show sizes of unfinished forgings. Prices will be given for special forms on receipt of models or drawings and specifications stating quantity required.

| No. | Shank | | Head | | No. |
|-----|----------|----------------------------|-----------|-----------|-----|
| | Diameter | Standard Length under Head | Diameter | Thickness | |
| 0B | 3/16 | 4 13/16 | 3/8 | 1/4 | 0B |
| 1C | 1/4 | *5 | 5/8 | 1/4 | 1C |
| 1D | 1/4 | *2 3/8 | 7/16 | 1/4 | 1D |
| 2A | 5/16 | *3 3/4 | 3/4 | 7/16 | 2A |
| 2B | 5/16 | 3 1/8 | 3/4 | 5/16 | 2B |
| 2C | 5/16 | 5 3/4 | 3/4 | 3/8 | 2C |
| 2D | 5/16 | 1 1/4 | 13/16 | 3/8 | 2D |
| 3A | 3/8 | *2 | 1 | 3/8 | 3A |
| 3C | 3/8 | *3 1/2 | 13/16 | 3/8 | 3C |
| 3E | 3/8 | 3 1/8 | 5/8 | 5/8 | 3E |
| 3F | 3/8 | 1 1/8 | 3/4 | 3/8 | 3F |
| 3G | 3/8 | 1 7/16 | 5/8 | 3/8 | 3G |
| 3H | 3/8 | 1 5/8 | 3/4 | 3/8 | 3H |
| 3J | 3/8 | 3 1/16 | 7/8 | 3/8 | 3J |
| 4B | 7/16 | *4 1/2 | 15/16 | 5/8 | 4B |
| 5A | 1/2 | *4 3/8 | (a) 1 | 1/2 | 5A |
| 5C | 1/2 | 3 1/16 | 7/8 | 7/16 | 5C |
| 5D | 1/2 | *2 7/8 | (b) 3/4 | 13/16 | 5D |
| 5E | 1/2 | *2 1/8 | 1 1/16 | 9/16 | 5E |
| 5F | 1/2 | 2 1/16 | 13/16 | 11/32 | 5F |
| 7A | 5/8 | *2 3/8 | 1 1/8 | 15/32 | 7A |
| 7B | 5/8 | *4 7/8 | 1 1/4 | 19/32 | 7B |
| 7D | 5/8 | *7 1/2 | 1 5/32 | 21/32 | 7D |
| 7E | 5/8 | *5 7/8 | (c) 1 1/8 | 1 1/16 | 7E |
| 7F | 5/8 | *4 1/2 | 1 7/16 | 11/16 | 7F |
| 7G | 5/8 | 2 5/16 | 1 | 7/16 | 7G |
| 9A | 3/4 | *3 7/8 | 1 3/4 | 5/8 | 9A |
| 9B | 3/4 | *4 1/2 | 1 1/2 | 13/16 | 9B |
| 9C | 3/4 | *4 3/8 | 1 1/8 | 3/4 | 9C |
| 11A | 7/8 | *3 1/2 | 1 1/2 | 1 1/16 | 11A |
| 11B | 7/8 | *4 | 2 | 15/16 | 11B |
| 13B | 1 | *3 1/2 | 1 5/8 | 1 1/2 | 13B |
| 13C | 1 | *3 1/2 | 1 15/32 | 1 1/8 | 13C |
| 14A | 1 1/16 | *5 3/4 | 2 1/16 | 1 1/8 | 14A |
| 15B | 1 1/8 | *6 | 2 1/4 | 1 1/4 | 15B |
| 17A | 1 1/4 | *6 | 2 5/16 | 1 1/2 | 17A |

*Can be furnished longer if desired.

Largest Diameter Head (a) 1-1/4"; (b) 1-1/8"; (c) 1-9/16".

**WHITWORTH
AND
METRIC**

**CARBON and ALLOY
WRENCHES**

**"SUPERSOCKETS"
AND
ATTACHMENTS**

DROP-FORGINGS AND WILLIAMS' DROP-FORGED TOOLS

WILLIAMS' "SUPERIOR" ENGINEERS WRENCHES 15° Angle, Single Head (Carbon Steel)



These wrenches are milled, surface and edges smooth, size stamped on head, hardened and black enameled (baked on)—heads bright.

WHITWORTH

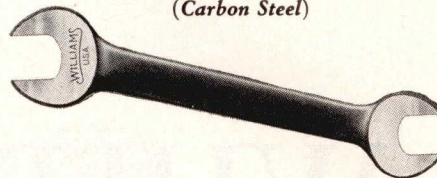
| No. | For Whitworth Standard | For B. S. F. | Extreme Length Approx. | Net Wgt. Lbs. Approx. |
|-----|------------------------|--------------|------------------------|-----------------------|
| W00 | 1/8 | 3/16 | 3 1/2 | .07 |
| W0 | 3/16 | 1/4 | 4 | .08 |
| W1 | 1/4 | 5/16 | 4 5/8 | .13 |
| W2 | 5/16 | 3/8 | 5 1/2 | .20 |
| W3 | 3/8 | 7/16 | 6 3/8 | .33 |
| W4 | 7/16 | 1/2 | 7 1/4 | .42 |
| W5 | 1/2 | 9/16 | 8 1/8 | .61 |
| W6 | 9/16 | 5/8 | 9 1/4 | .91 |
| W7 | 5/8 | 11/16 | 10 1/2 | 1.3 |
| W8 | 3/4 | 7/8 | 12 | 2.1 |
| W9 | 7/8 | 1 | 13 1/2 | 2.7 |
| W10 | 1 | 1 1/8 | 15 | 3.5 |
| W11 | 1 1/8 | 1 1/4 | 16 1/2 | 4.6 |
| W12 | 1 1/4 | 1 3/8 | 18 1/4 | 5.8 |
| W13 | 1 3/8 | 1 1/2 | 20 | 7.2 |
| W14 | 1 1/2 | 1 5/8 | 22 | 10. |

METRIC MEASURE

| No. | Metric Openings m/m | Extreme Length, Approx. | Net Wgt., Lbs. Approx. |
|--------|---------------------|-------------------------|------------------------|
| MS000 | 5 | 2 1/2 | .03 |
| MS000T | 6 | 2 1/2 | .03 |
| M00T | 7 | 3 1/2 | .07 |
| M00 | 8 | 3 1/2 | .07 |
| M0T | 9 | 4 | .08 |
| M0 | 10 | 4 | .08 |
| M1T | 11 | 4 5/8 | .13 |
| M1 | 12 | 4 5/8 | .13 |
| M2T | 13 | 5 1/2 | .20 |
| M2 | 14 | 5 1/2 | .20 |
| M2U | 15 | 5 1/2 | .20 |
| M3 | 16 | 6 3/8 | .33 |
| M3U | 17 | 6 3/8 | .33 |
| M3T | 18 | 6 3/8 | .33 |
| M4T | 19 | 7 1/4 | .42 |
| M4 | 20 | 7 1/4 | .42 |
| M5T | 21 | 8 1/8 | .61 |
| M5 | 22 | 8 1/8 | .61 |
| M6T | 23 | 9 1/4 | .91 |
| M6U | 24 | 9 1/4 | .91 |
| M6 | 25 | 9 1/4 | .91 |
| M7T | 26 | 10 1/2 | 1.3 |
| M7U | 27 | 10 1/2 | 1.3 |
| M7 | 28 | 10 1/2 | 1.3 |
| M8U | 29 | 12 | 2.1 |
| M8 | 30 | 12 | 2.1 |
| M8T | 32 | 12 | 2.1 |
| M9U | 34 | 13 1/2 | 2.7 |
| M9 | 35 | 13 1/2 | 2.7 |
| M9V | 36 | 13 1/2 | 2.7 |
| M9T | 38 | 13 1/2 | 2.7 |
| M10 | 40 | 15 | 3.5 |
| M10T | 42 | 15 | 3.5 |
| M11 | 45 | 16 1/2 | 4.6 |
| M12 | 50 | 18 1/4 | 5.8 |

★ REGISTERED TRADE MARK

WILLIAMS' "SUPERIOR" ENGINEERS WRENCHES 15° Angle, Double Head (Carbon Steel)



These wrenches are milled, surface and edges smooth, size stamped on head, hardened and black enameled (baked on)—heads bright.

WHITWORTH

| No. | For Whitworth Standard | For B. S. F. | Extreme Length Approx. | Net Wgt. Lbs. Approx. |
|-----|------------------------|---------------|------------------------|-----------------------|
| W21 | 1/8 & 3/16 | 3/16 & 1/4 | 4 1/8 | .08 |
| W22 | 1/8 & 1/4 | 3/16 & 5/16 | 4 1/4 | .11 |
| W23 | 3/16 & 1/4 | 1/4 & 5/16 | 4 1/2 | .11 |
| W24 | 3/16 & 5/16 | 1/4 & 3/8 | 5 | .18 |
| W25 | 1/4 & 5/16 | 5/16 & 3/8 | 5 3/4 | .22 |
| W26 | 1/4 & 3/8 | 5/16 & 7/16 | 6 | .30 |
| W27 | 5/16 & 3/8 | 3/8 & 7/16 | 6 3/4 | .33 |
| W28 | 5/16 & 7/16 | 3/8 & 1/2 | 7 1/4 | .42 |
| W29 | 3/8 & 7/16 | 7/16 & 1/2 | 7 7/8 | .48 |
| W30 | 3/8 & 1/2 | 7/16 & 9/16 | 8 | .61 |
| W31 | 7/16 & 1/2 | 1/2 & 9/16 | 9 1/8 | .70 |
| W32 | 7/16 & 9/16 | 1/2 & 5/8 | 10 | .98 |
| W33 | 1/2 & 9/16 | 9/16 & 5/8 | 10 | .98 |
| W34 | 1/2 & 5/8 | 9/16 & 11/16 | 11 | 1.3 |
| W35 | 9/16 & 5/8 | 5/8 & 11/16 | 11 | 1.3 |
| W36 | 9/16 & 3/4 | 5/8 & 7/8 | 12 3/8 | 2. |
| W37 | 5/8 & 3/4 | 11/16 & 7/8 | 12 3/8 | 2. |
| W38 | 5/8 & 7/8 | 11/16 & 1 | 13 1/2 | 2.9 |
| W39 | 3/4 & 7/8 | 7/8 & 1 | 14 | 2.8 |
| W40 | 3/4 & 1 | 7/8 & 1 1/8 | 15 1/2 | 3.7 |
| W41 | 7/8 & 1 | 1 & 1 1/8 | 15 3/4 | 3.8 |
| W42 | 7/8 & 1 1/8 | 1 & 1 1/4 | 17 | 5.8 |
| W43 | 1 & 1 1/8 | 1 1/8 & 1 1/4 | 17 | 5.8 |
| W44 | 1 & 1 1/4 | 1 1/8 & 1 3/8 | 19 | 7.3 |
| W45 | 1 1/8 & 1 1/4 | 1 1/4 & 1 3/8 | 19 | 7.3 |

METRIC MEASURE

| No. | Metric Openings m/m | Extreme Length, Approx. | Net Wgt., Lbs. Approx. |
|------|---------------------|-------------------------|------------------------|
| M21 | 6 & 8 | 4 1/8 | .08 |
| M21T | 7 & 9 | 4 1/8 | .08 |
| M21U | 8 & 10 | 4 1/8 | .08 |
| M22 | 9 & 11 | 4 1/4 | .11 |
| M23 | 10 & 12 | 4 1/2 | .11 |
| M23T | 11 & 13 | 4 1/2 | .11 |
| M25T | 12 & 13 | 5 3/4 | .22 |
| M25 | 12 & 14 | 5 3/4 | .22 |
| M25U | 13 & 15 | 5 3/4 | .22 |
| M27 | 14 & 16 | 6 3/4 | .33 |
| M27T | 15 & 16 | 6 3/4 | .33 |
| M27U | 15 & 17 | 6 3/4 | .33 |
| M28 | 16 & 18 | 7 1/4 | .42 |
| M28T | 17 & 19 | 7 1/4 | .42 |
| M29T | 18 & 19 | 7 7/8 | .48 |
| M29 | 18 & 20 | 7 7/8 | .48 |
| M30 | 19 & 21 | 8 | .61 |
| M31 | 20 & 22 | 9 1/8 | .70 |
| M31T | 21 & 23 | 9 1/8 | .70 |
| M32T | 22 & 24 | 10 | .98 |
| M32 | 22 & 25 | 10 | .98 |
| M32U | 23 & 25 | 10 | .98 |
| M34 | 23 & 27 | 11 | 1.3 |
| M34T | 24 & 26 | 11 | 1.3 |
| M34U | 25 & 27 | 11 | 1.3 |
| M35 | 25 & 28 | 11 | 1.3 |
| M34V | 26 & 28 | 11 | 1.3 |
| M35T | 26 & 29 | 11 | 1.3 |
| M36T | 27 & 29 | 12 3/8 | 2. |
| M36 | 28 & 30 | 12 3/8 | 2. |
| M36U | 29 & 32 | 12 3/8 | 2. |
| M37 | 30 & 32 | 12 3/8 | 2. |
| M39 | 32 & 35 | 14 | 2.8 |
| M40 | 33 & 39 | 15 1/2 | 3.7 |
| M41 | 38 & 40 | 15 3/4 | 3.8 |
| M41T | 38 & 42 | 15 3/4 | 3.8 |
| M43 | 42 & 45 | 17 | 5.8 |
| M44 | 46 & 50 | 19 | 7.3 |
| M47 | 50 & 55 | 21 | 9.3 |

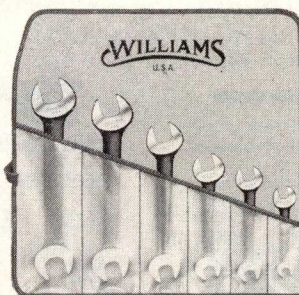
1-52

DROP-FORGINGS AND WILLIAMS DROP-FORGED TOOLS

SET No. W-25 WHITWORTH

In Leatherette Roll
In Cardboard Box
Total Net Weight, 3.1 lbs.

CONTENTS
1 each Nos. W21, W25, W27, W29,
W31 and W33.

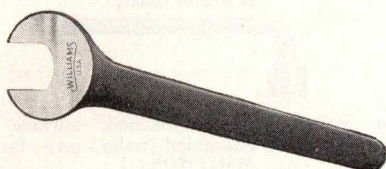


SET No. M-25 METRIC MEASURE

In Leatherette Roll
In Cardboard Box
Total Net Weight, 2.8 lbs.

CONTENTS
1 each Nos. M21U, M25, M28,
M28T, M31 and M31T.

WILLIAMS'
♦ "SUPERIOR" CHECK NUT,
or "THIN" WRENCHES
15° Angle, Single Head
(Carbon Steel)



This class of Wrench is guaranteed amply strong for its purpose, but is not designed for severe service.

WHITWORTH

| No. | For Whitworth Standard | For B. S. F. | Extreme Length Approx. | Net Wgt. Lbs. Approx. |
|------|------------------------------|-----------------|------------------------------|-----------------------------|
| W601 | 1/4 | 5/16 | 4 | .08 |
| W602 | 5/16 | 3/8 | 4 1/2 | .12 |
| W603 | 3/8 | 7/16 | 5 1/8 | .14 |
| W604 | 7/16 | 1/2 | 5 7/8 | .23 |
| W605 | 1/2 | 9/16 | 6 5/8 | .33 |
| W607 | 5/8 | 11/16 | 8 1/2 | .66 |
| W608 | 3/4 | 7/8 | 10 | 1.1 |
| W609 | 7/8 | 1 | 11 5/8 | 1.5 |
| W610 | 1 | 1 1/8 | 13 1/4 | 2.5 |

METRIC MEASURE

| No. | Metric Openings m/m | Extreme Length, Approx. | Net Wgt., Lbs. Approx. |
|-------|---------------------------|-------------------------------|------------------------------|
| M601 | 12 | 4 | .08 |
| M601T | 13 | 4 | .08 |
| M602 | 14 | 4 1/2 | .12 |
| M602T | 15 | 4 1/2 | .12 |

♦ REGISTERED TRADE MARK

WILLIAMS'
♦ "SUPERIOR" CHECK NUT,
or "THIN" WRENCHES
15° Angle, Double Head
(Carbon Steel)



These wrenches are milled, surface and edges smooth, size stamped on head, hardened and black enameled (baked on)—heads bright.

WHITWORTH

| No. | For Whitworth Standard | For B. S. F. | Extreme Length Approx. | Net Wgt. Lbs. Approx. |
|------|------------------------------|-----------------|------------------------------|-----------------------------|
| W623 | 3/16 & 1/4 | 1/4 & 5/16 | 4 5/8 | .08 |
| W624 | 3/16 & 5/16 | 1/4 & 3/8 | 4 3/4 | .11 |
| W625 | 1/4 & 5/16 | 5/16 & 3/8 | 4 3/4 | .11 |
| W626 | 1/4 & 3/8 | 5/16 & 7/16 | 6 | .17 |
| W627 | 5/16 & 3/8 | 3/8 & 7/16 | 6 | .17 |
| W628 | 5/16 & 7/16 | 3/8 & 1/2 | 6 3/4 | .23 |
| W629 | 3/8 & 7/16 | 7/16 & 1/2 | 6 3/4 | .23 |
| W630 | 3/8 & 1/2 | 7/16 & 9/16 | 7 1/2 | .36 |
| W631 | 7/16 & 1/2 | 1/2 & 9/16 | 7 1/2 | .36 |
| W632 | 7/16 & 9/16 | 1/2 & 5/8 | 8 3/4 | .36 |
| W634 | 1/2 & 5/8 | 9/16 & 11/16 | 8 7/8 | .59 |
| W635 | 9/16 & 5/8 | 5/8 & 11/16 | 10 1/2 | .95 |
| W637 | 5/8 & 3/4 | 11/16 & 7/8 | 10 1/2 | .95 |
| W639 | 3/4 & 7/8 | 7/8 & 1 | 12 1/2 | 1.7 |

METRIC MEASURE

| No. | Metric Openings m/m | Extreme Length, Approx. | Net Wgt., Lbs. Approx. |
|-------|---------------------------|-------------------------------|------------------------------|
| M623 | 10 & 12 | 4 5/8 | .08 |
| M623T | 12 & 14 | 4 5/8 | .08 |
| M623U | 13 & 15 | 4 5/8 | .08 |
| M626 | 14 & 16 | 6 | .21 |
| M626T | 16 & 18 | 6 | .21 |
| M629 | 18 & 20 | 6 3/4 | .23 |
| M628T | 19 & 21 | 6 3/4 | .23 |
| M630 | 20 & 22 | 7 1/2 | .36 |
| M630T | 21 & 23 | 7 1/2 | .36 |
| M630U | 22 & 25 | 7 1/2 | .36 |
| M634 | 23 & 27 | 8 7/8 | .59 |
| M634T | 24 & 26 | 8 7/8 | .59 |
| M635T | 26 & 29 | 10 1/2 | .95 |
| M635 | 28 & 30 | 10 1/2 | .95 |

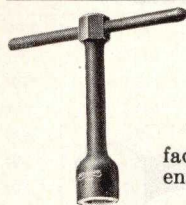
DROP-FORGINGS AND WILLIAMS DROP-FORGED TOOLS

♦“SUPERIOR” CONSTRUCTION WRENCHES (Carbon Steel) 15° Angle



Wrenches are milled, hardened and shot-blasted; heads not bright. **WHITWORTH**

| No. | For Whitworth Standard | For B. S. F. | Extreme Length Approx. | Net Wgt. Lbs. Approx. |
|------|------------------------|--------------|------------------------|-----------------------|
| W201 | 1/4 | 5/16 | 9 1/2 | .27 |
| W202 | 5/16 | 3/8 | 9 1/2 | .27 |
| W203 | 3/8 | 7/16 | 12 | .53 |
| W204 | 7/16 | 1/2 | 12 | .53 |
| W205 | 1/2 | 9/16 | 14 1/2 | 1. |
| W207 | 5/8 | 11/16 | 17 | 1.7 |
| W208 | 3/4 | 7/8 | 19 | 2.6 |
| W209 | 7/8 | 1 | 21 | 3.7 |
| W210 | 1 | 1 1/8 | 23 | 5.3 |
| W211 | 1 1/8 | 1 1/4 | 25 | 7.3 |



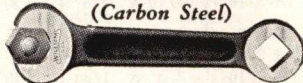
♦“SUPERIOR” SOCKET WRENCHES (Carbon Steel)

These wrenches are broached, surface smooth, hardened and black enameled (baked on)—face bright.

WHITWORTH

| No. | For Whitworth Standard | For B. S. F. | Extreme Length Approx. | Net Wgt. Lbs. Approx. |
|-------|------------------------|--------------|------------------------|-----------------------|
| W963A | 3/16 | 1/4 | 4 7/8 | .30 |
| W964A | 1/4 | 5/16 | 5 1/4 | .31 |
| W965A | 5/16 | 3/8 | 5 3/4 | .45 |
| W967A | 3/8 | 7/16 | 6 1/2 | .92 |
| W968A | 7/16 | 1/2 | 7 | 1.1 |
| W969A | 1/2 | 9/16 | 7 3/8 | 1.3 |
| W971A | 5/8 | 11/16 | 8 1/4 | 1.9 |
| W973A | 3/4 | 7/8 | 9 1/8 | 2.9 |
| W975A | 7/8 | 1 | 10 | 4.2 |
| W976A | 1 | 1 1/8 | 10 3/8 | 5.3 |

♦“SUPERIOR” TOOL POST WRENCHES For Nuts and Set Screws (Carbon Steel)



Wrenches are milled, surface and edges smooth, hardened, and black enameled (baked on)—heads bright.

WHITWORTH

| No. | Whitworth Standard | | For B. S. F. | | Extreme Length Approx. | Net Wgt. Lbs. Approx. |
|-------|--------------------|--------|--------------|--------|------------------------|-----------------------|
| | Open | Closed | Open | Closed | | |
| W563C | 1/2 | 9/16 | 9/16 | 5/8 | 7 | .84 |
| W563D | 1/2 | 5/8 | 9/16 | 11/16 | 7 | .84 |
| W564 | 5/8 | 5/8 | 11/16 | 11/16 | 7 1/2 | 1.1 |

♦“SUPERIOR” HEX-BOX WRENCHES (Carbon Steel) Regular Pattern—15° Angle



Wrenches are broached, surface and edges smooth, hardened, black enameled (baked on)—heads bright.

WHITWORTH

| No. | For Whitworth Standard | For B. S. F. | Extreme Length Approx. | Net Wgt. Lbs. Approx. |
|------|------------------------|--------------|------------------------|-----------------------|
| W802 | 5/16 | 3/8 | 4 7/8 | .17 |
| W803 | 3/8 | 7/16 | 5 7/8 | .25 |
| W804 | 7/16 | 1/2 | 6 7/8 | .38 |
| W805 | 1/2 | 9/16 | 7 3/4 | .52 |
| W806 | 9/16 | 5/8 | 8 3/4 | .70 |
| W807 | 5/8 | 11/16 | 9 7/8 | .95 |
| W808 | 3/4 | 7/8 | 11 1/2 | 1.4 |
| W809 | 7/8 | 1 | 13 3/8 | 2. |
| W810 | 1 | 1 1/8 | 15 1/4 | 2.9 |

♦REGISTERED TRADE MARK

♦“SUPERIOR” STRUCTURAL WRENCHES (Carbon Steel) Straight Opening

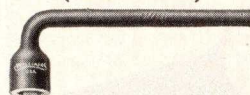


Offset handle clears obstructions. For finish see opposite.

WHITWORTH

| No. | For Whitworth Standard | For B. S. F. | Extreme Length Approx. | Net Wgt. Lbs. Approx. |
|------|------------------------|--------------|------------------------|-----------------------|
| W901 | 1/4 | 5/16 | 9 1/2 | .33 |
| W903 | 3/8 | 7/16 | 12 | .63 |
| W905 | 1/2 | 9/16 | 14 1/2 | 1.2 |
| W906 | 9/16 | 5/8 | 14 1/2 | 1.2 |
| W907 | 5/8 | 11/16 | 17 | 1.9 |
| W908 | 3/4 | 7/8 | 19 | 3. |
| W909 | 7/8 | 1 | 21 | 4. |
| W910 | 1 | 1 1/8 | 23 | 5.3 |
| W912 | 1 1/4 | 1 3/8 | 25 | 7.4 |

♦“SUPERIOR” OFFSET SOCKET WRENCHES (Carbon Steel)



These wrenches are broached, surface smooth, hardened and black enameled (baked on)—face bright.

WHITWORTH

| No. | For Whitworth Standard | For B. S. F. | Extreme Length Approx. | Net Wgt. Lbs. Approx. |
|-------|------------------------|--------------|------------------------|-----------------------|
| W264A | 1/4 | 5/16 | 5 1/8 | .22 |
| W265A | 5/16 | 3/8 | 5 7/8 | .36 |
| W267A | 3/8 | 7/16 | 6 3/4 | .67 |
| W268A | 7/16 | 1/2 | 7 1/2 | .92 |
| W269A | 1/2 | 9/16 | 8 3/8 | 1.1 |
| W270A | 9/16 | 5/8 | 9 1/8 | 1.4 |
| W271A | 5/8 | 11/16 | 10 | 1.8 |
| W273A | 3/4 | 7/8 | 11 5/8 | 2.7 |
| W275A | 7/8 | 1 | 13 1/4 | 4.1 |
| W276A | 1 | 1 1/8 | 14 7/8 | 5.1 |

WILLIAMS' ♦“SUPERECTOR” REVERSIBLE RATCHET WRENCHES With Quadruple Pawls and Drop-Forged Handle



PATENTED

For use with sockets listed below.
Finished in baked gray enamel.

| No. | Length From Center of Head | Net Weight, Lbs. Approx. |
|-------|----------------------------|--------------------------|
| E1-24 | 24 | 9.3 |
| E1-36 | 36 | 12.8 |

WILLIAMS' ♦“SUPERECTOR” SOCKETS



Sockets have hole extending clear through their center so that nuts may be turned all the way down on any length of bolt. Finished in baked gray enamel.

WHITWORTH

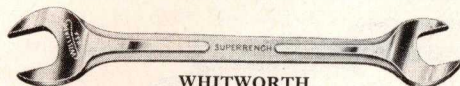
| No. | For Whitworth Standard | For B. S. F. | Net Wgt. Lbs. Approx. |
|---------|------------------------|--------------|-----------------------|
| WE1-617 | 5/8 | 11/16 | 2.6 |
| WE1-620 | 3/4 | 7/8 | 2.5 |
| WE1-623 | 7/8 | 1 | 2.5 |
| WE1-626 | 1 | 1 1/8 | 2.6 |
| WE1-629 | 1 1/8 | 1 1/4 | 2.8 |
| WE1-632 | 1 1/4 | 1 3/8 | 3.2 |
| WE1-635 | 1 3/8 | 1 1/2 | 5.8 |

DROP-FORGINGS AND WILLIAMS DROP-FORGED TOOLS

WILLIAMS' "SUPERRENCHES"

Selected Alloy Steel

NEW STREAMLINED DESIGN, 15° Angle—Double Head Open-End



WHITWORTH

| No. | For Whitworth Standard | For B. S. F. | Extreme Length Approx. | Net Wgt. Lbs. Approx. |
|--------|------------------------|--------------|------------------------|-----------------------|
| WA1021 | 1/8 & 3/16 | 3/16 & 1/4 | 4 11/16 | .07 |
| WA1022 | 1/8 & 1/4 | 3/16 & 5/16 | 4 7/8 | .08 |
| WA1023 | 3/16 & 1/4 | 1/4 & 5/16 | 5 1/8 | .10 |
| WA1025 | 1/4 & 5/16 | 5/16 & 3/8 | 6 1/4 | .15 |
| WA1027 | 5/16 & 3/8 | 3/8 & 7/16 | 7 1/2 | .26 |
| WA1028 | 5/16 & 7/16 | 3/8 & 1/2 | 8 1/4 | .32 |
| WA1029 | 3/8 & 7/16 | 7/16 & 1/2 | 9 | .38 |
| WA1030 | 3/8 & 1/2 | 7/16 & 9/16 | 9 3/4 | .54 |
| WA1031 | 7/16 & 1/2 | 1/2 & 9/16 | 10 1/2 | .71 |
| WA1033 | 1/2 & 9/16 | 9/16 & 5/8 | 11 3/8 | .92 |
| WA1034 | 1/2 & 5/8 | 9/16 & 11/16 | 11 3/8 | .92 |
| WA1037 | 5/8 & 3/4 | 11/16 & 7/8 | 13 1/4 | 1.4 |

SET No. WA-1025

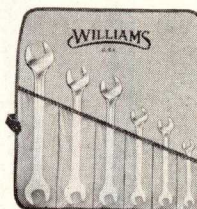
WHITWORTH

In Leatherette Roll
In Cardboard Box

Total Net Weight, 2.1 lbs.

CONTENTS

1 each Nos. WA1021, WA1025, WA1027, WA1029, WA1031 and WA1033.



Jaws are long, thin and pointed, but the strength is the greatest ever put in a thin wrench. Drop-forged from Selected Alloy Steel, heat-treated, chrome-plated.

METRIC MEASURE

| No. | Metric Openings m/m | Extreme Length, Approx. | Net Wgt., Lbs. Approx. |
|---------|---------------------|-------------------------|------------------------|
| MA1021 | 6 & 8 | 3 13/16 | .03 |
| MA1021T | 8 & 10 | 4 1/4 | .05 |
| MA1023 | 10 & 12 | 5 1/8 | .10 |
| MA1025 | 12 & 14 | 6 1/4 | .15 |
| MA1027 | 14 & 16 | 6 7/8 | .20 |
| MA1028 | 16 & 18 | 8 1/4 | .32 |
| MA1028T | 17 & 19 | 9 | .38 |
| MA1029 | 18 & 20 | 9 3/4 | .54 |
| MA1031 | 20 & 22 | 9 3/4 | .54 |
| MA1031T | 21 & 23 | 10 1/2 | .71 |
| MA1032 | 22 & 25 | 11 3/8 | .92 |
| MA1033 | 24 & 26 | 11 3/8 | .92 |
| MA1035 | 25 & 28 | 12 1/4 | 1.1 |

SET No. MA-1025

METRIC MEASURE

In Leatherette Roll
In Cardboard Box

Total Net Weight, 1.9 lbs.

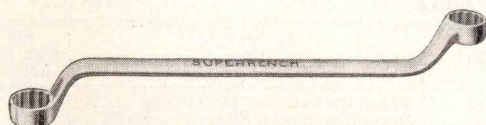
CONTENTS

1 each Nos. MA1021T, MA1025, MA1028, MA1028T, MA1031 and MA1031T.

WILLIAMS' 12-POINT-BOX "SUPERRENCHES"

Selected Alloy Steel

Double Offset Pattern



WHITWORTH

| No. | For Whitworth Standard | For B. S. F. | Extreme Length Approx. | Net Wgt. Lbs. Approx. |
|--------|------------------------|---------------|------------------------|-----------------------|
| W8723 | 1/8 & 3/16 | 3/16 & 1/4 | 7 3/4 | .26 |
| W8025 | 3/16 & 1/4 | 1/4 & 5/16 | 8 3/4 | .43 |
| W8727 | 1/4 & 5/16 | 5/16 & 3/8 | 9 3/4 | .59 |
| W8729 | 5/16 & 3/8 | 3/8 & 7/16 | 11 | .84 |
| W8029 | 3/8 & 7/16 | 7/16 & 1/2 | 11 | .84 |
| W8733 | 7/16 & 1/2 | 1/2 & 9/16 | 13 1/2 | 1.4 |
| W8033C | 1/2 & 9/16 | 9/16 & 5/8 | 14 1/2 | 1.1 |
| W8034A | 1/2 & 5/8 | 9/16 & 11/16 | 15 1/2 | 1.3 |
| W8037 | 9/16 & 5/8 | 5/8 & 11/16 | 17 | 2.1 |
| W8039 | 11/16 & 3/4 | 3/4 & 7/8 | 19 | 3.3 |
| W8039A | 5/8 & 3/4 | 11/16 & 7/8 | 19 | 3.3 |
| W8039B | 3/4 & 7/8 | 7/8 & 1 | 19 | 3.3 |
| W8041 | 7/8 & 1 | 1 & 1 1/8 | 23 | 5.7 |
| W8045 | 1 1/8 & 1 1/4 | 1 1/4 & 1 3/8 | 25 | 8.5 |
| W8049 | 1 3/8 & 1 1/2 | 1 1/2 & 1 5/8 | 27 | 10.2 |

SET No. W-8006

WHITWORTH

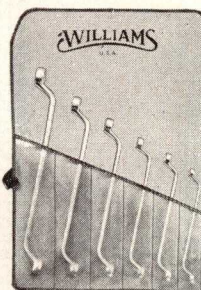
In Leatherette Roll
In Cardboard Box

Total Net Weight, 3.6 lbs.

CONTENTS

1 each Nos. W8723, W8025, W8727, W8029, W8733 and W8033C.

♦ REGISTERED TRADE MARK



Thin head walls permit use where clearance is extremely limited.

Drop-forged from Selected Alloy Steel, heat-treated and chrome-plated.

METRIC MEASURE

| No. | Metric Openings m/m | Extreme Length, Approx. | Net Wgt., Lbs. Approx. |
|--------|---------------------|-------------------------|------------------------|
| M8021 | 8 & 10 | 7 1/2 | .18 |
| M8723 | 9 & 11 | 7 3/4 | .26 |
| M8023 | 10 & 12 | 8 1/4 | .43 |
| M8025A | 12 & 13 | 8 3/4 | .43 |
| M8725B | 13 & 14 | 8 3/4 | .43 |
| M8025 | 13 & 15 | 8 3/4 | .43 |
| M8727 | 14 & 16 | 9 3/4 | .59 |
| M8727A | 15 & 17 | 11 | .59 |
| M8729 | 16 & 18 | 11 | .84 |
| M8029 | 17 & 19 | 11 | .84 |
| M8729A | 18 & 19 | 12 1/2 | .84 |
| M8731A | 18 & 20 | 12 1/2 | 1. |
| M8031B | 19 & 20 | 12 1/2 | 1. |
| M8731B | 21 & 22 | 12 1/2 | 1. |
| M8033 | 23 & 24 | 13 1/2 | 1.1 |
| M8033C | 23 & 25 | 14 1/2 | 1.1 |
| M8034 | 23 & 27 | 15 1/2 | 1.3 |
| M8735A | 25 & 28 | 17 | 2.1 |
| M8735 | 26 & 29 | 17 | 2.1 |
| M8039 | 30 & 32 | 19 | 3.3 |

SET No. M-8006

METRIC MEASURE

In Leatherette Roll
In Cardboard Box

Total Net Weight, 3.5 lbs.

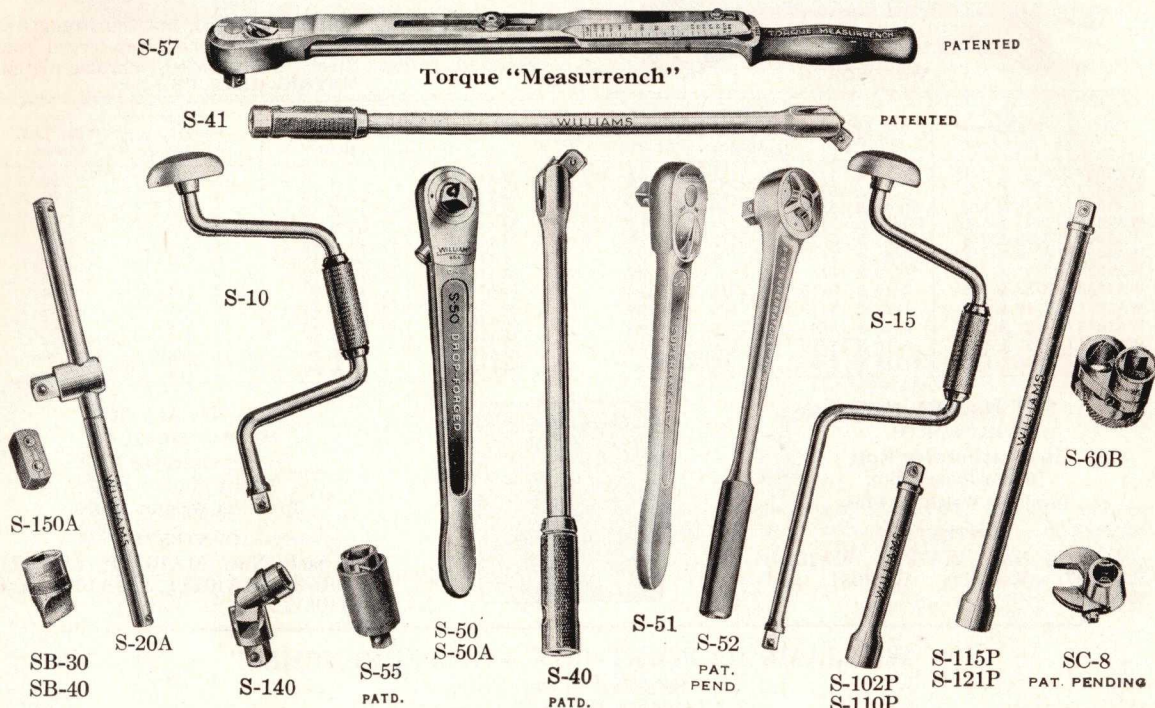
CONTENTS

1 each Nos. M8023, M8025, M8727, M8029, M8731A and M8033C.

DROP-FORGINGS AND WILLIAMS DROP-FORGED TOOLS

WILLIAMS' "SUPERSOCKET" WRENCHES Selected Alloy Steel

Standard Pattern—1/2" Square Drive



HANDLES AND PARTS

| No. | Piece | Net Wgt., Lbs. Approx. | No. | Piece | Net Wgt., Lbs. Approx. |
|-------|---|------------------------|--------|------------------------------------|------------------------|
| SC-8 | Adjust. Crowfoot Attach. 15/16 Capacity | .37 | S-52 | Reversible Ratchet—11-1/4" long | 1.2 |
| S-10 | Speeder—12" long, revolving grips | 1.8 | S-55 | Reversible Ratchet Adapter—2-9/16" | .5 |
| S-15 | Speeder—17-1/2" long, revolving grips | 2. | S-57 | Torque "Measurrench"—19-1/2" long. | |
| S-20A | Sliding T Handle—11" long | .96 | | Indicates R.H. Torque. Has Torque | |
| SB-30 | Screw Driver Attachment—7/64 x 15/16" | .14 | | indicating signal | 3.7 |
| SB-40 | Screw Driver Attachment—3/32 x 1-1/4" | .16 | S-60B | Stud Remover 5/16 to 3/4" Capacity | .52 |
| S-40 | Flex Handle—12" long, 7/16" crosshole | 1.4 | S-102P | Extension Bar—2-1/2" long | .27 |
| S-41 | Flex Handle—17-1/4" long, 7/16" crosshole | 1.9 | S-110P | Extension Bar—5-1/2" long | .53 |
| S-42B | Sliding Bar—7/16 x 9" for S-40 and S-41 | .35 | S-115P | Extension Bar—10-1/2" long | 1. |
| S-50 | Ratchet—10" long with plug-connector | 1.3 | S-121P | Extension Bar—20" long | 2.1 |
| S-50A | Ratchet—10" long without plug-connector | 1.3 | S-140 | Universal Joint—range approx. 140° | .34 |
| S-51 | Reversible Ratchet 10-1/2" long | 1.4 | S-150A | Ratchet Plug-Connector for S-50 | .08 |

"SUPERSOCKETS"



REGULAR
12-POINT

Williams' Standard Sockets have thin walls for work in close places. They are accurately made from Selected Alloy Steel, heat-treated and chrome-plated.

WHITWORTH

| No. | For Whitworth Standard | For B. S. F. | Net Wgt., Lbs. Approx. |
|----------|------------------------|--------------|------------------------|
| STW-1206 | 3/16 | 1/4 | .11 |
| STW-1208 | 1/4 | 5/16 | .13 |
| STW-1210 | 5/16 | 3/8 | .13 |
| STW-1212 | 3/8 | 7/16 | .16 |
| STW-1214 | 7/16 | 1/2 | .23 |
| STW-1216 | 1/2 | 9/16 | .28 |
| STW-1218 | 9/16 | 5/8 | .34 |
| STW-1220 | 5/8 | 11/16 | .48 |
| STW-1222 | 11/16 | 3/4 | .61 |
| STW-1224 | 3/4 | 7/8 | .75 |

METRIC MEASURE

| No. | Metric Openings m/m | Net Wgt., Lbs. Approx. |
|----------|---------------------|------------------------|
| STM-1210 | 10 | .11 |
| STM-1211 | 11 | .11 |
| STM-1212 | 12 | .11 |
| STM-1213 | 13 | .11 |
| STM-1214 | 14 | .11 |
| STM-1215 | 15 | .13 |
| STM-1216 | 16 | .13 |
| STM-1217 | 17 | .14 |
| STM-1218 | 18 | .17 |
| STM-1219 | 19 | .17 |
| STM-1220 | 20 | .19 |
| STM-1221 | 21 | .23 |
| STM-1222 | 22 | .27 |
| STM-1223 | 23 | .28 |
| STM-1224 | 24 | .28 |
| STM-1225 | 25 | .33 |
| STM-1226 | 26 | .47 |
| STM-1227 | 27 | .47 |
| STM-1228 | 28 | .48 |
| STM-1229 | 29 | .52 |
| STM-1230 | 30 | .59 |
| STM-1231 | 31 | .69 |
| STM-1232 | 32 | .78 |
| STM-1233 | 33 | .78 |
| STM-1234 | 34 | .81 |
| STM-1235 | 35 | .86 |
| STM-1236 | 36 | .92 |

★ REGISTERED TRADE MARK

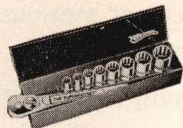
1-52

DROP-FORGINGS AND **WILLIAMS** DROP-FORGED TOOLS

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS Selected Alloy Steel

Standard Pattern—1/2" Square Drive

WHITWORTH SET No. WS-3



**8 Sockets and 1 Attachment
Complete in Metal Case**

Total Net Weight Approx. 5.8 lbs.
Case—2-1/8 x 3 x 12-1/2"

CONTENTS

- 8 Standard "Supersockets"—Nos. STW-1210, STW-1212, STW-1214, STW-1216, STW-1218, STW-1220, STW-1222 and STW-1224.
- 1 S-51 Reversible Ratchet—10-1/2" long.

WHITWORTH SETS Nos. WS-4 and WS-4B



Complete in Metal Cases

Case—2-1/8 x 3-3/4 x 12"

No. WS-4

10 Sockets and 4 Attachments
Total Net Weight
Approx. 7.9 lbs.

No. WS-4B

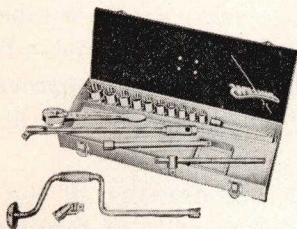
10 Sockets and 1 Attachment
Total Net Weight
Approx. 6.2 lbs.

CONTENTS

- 10 Standard "Supersockets"—Nos. STW-1206, STW-1208, STW-1210, STW-1212, STW-1214, STW-1216, STW-1218, STW-1220, STW-1222 and STW-1224.
- 1 S-51 Reversible Ratchet—10-1/2" long.
- *1 S-110P Extension Bar—5-1/2" long.
- *1 S-115P Extension Bar—10-1/2" long.
- *1 S-140 Universal Joint—range approx. 140°.

* Not included in Set No. WS-4B.

WHITWORTH SET No. WS-5



**10 Sockets and 7 Attachments
Complete in Metal Case**

Total Net Weight, Approx. 16.7 lbs.
Case—2-1/4 x 7-1/2 x 20-3/4"

CONTENTS

- 10 Standard "Supersockets"—Nos. STW-1206, STW-1208, STW-1210, STW-1212, STW-1214, STW-1216, STW-1218, STW-1220, STW-1222 and STW-1224.
- 1 S-15 Speeder—17-1/2" long.
- 1 S-20A Sliding T-Handle—11" long.
- 1 S-41 Flex Handle—17-1/4" long.
- 1 S-51 Reversible Ratchet—10-1/2" long.
- 1 S-110P Extension Bar—5-1/2" long.
- 1 S-115P Extension Bar—10-1/2" long.
- 1 S-140 Universal Joint—range approx. 140°.

METRIC MEASURE SET No. MS-4



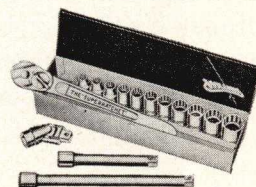
**20 Sockets and 1 Attachment
Complete in Metal Case**

Total Net Weight, Approx. 7.8 lbs.
Case—2-1/8 x 3-3/4 x 12"

CONTENTS

- 20 Standard "Supersockets"—Nos. STM-1210 to STM-1229 inclusive.
- 1 S-51 Reversible Ratchet—10-1/2" long.

METRIC MEASURE SETS Nos. MS-1 and MS-1B



Complete in Metal Cases

Case—2-1/8 x 3 x 12-1/2"

No. MS-1

11 Sockets and 4 Attachments
Total Net Weight
Approx. 6 lbs.

No. MS-1B

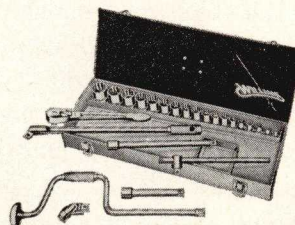
11 Sockets and 1 Attachment
Total Net Weight
Approx. 4.3 lbs.

CONTENTS

- 11 Standard "Supersockets"—Nos. STM-1210 to STM-1220 inclusive.
- 1 S-51 Reversible Ratchet—10-1/2" long.
- *1 S-110P Extension Bar—5-1/2" long.
- *1 S-115P Extension Bar—10-1/2" long.
- *1 S-140 Universal Joint—range approx. 140°.

* Not included in Set No. MS-1B.

METRIC MEASURE SET No. MS-5



**18 Sockets and 7 Attachments
Complete in Metal Case**

Total Net Weight, Approx. 17.4 lbs.
Case—2-1/4 x 7-1/2 x 20-3/4"

CONTENTS

- 18 Standard "Supersockets"—Nos. STM-1210 to STM-1227 inclusive.
- 1 S-15 Speeder—17-1/2" long.
- 1 S-20A Sliding T-Handle—11" long.
- 1 S-41 Flex Handle—17-1/4" long.
- 1 S-51 Reversible Ratchet—10-1/2" long.
- 1 S-110P Extension Bar—5-1/2" long.
- 1 S-115P Extension Bar—10-1/2" long.
- 1 S-140 Universal Joint—range approx. 140°.

DROP-FORGINGS TO ORDER

Drop-forgings are used in vast quantities for a wide variety of mechanical purposes. They are made of steel, bronze, copper, iron and many other metals.

Their quality depends upon the material and the care and skill used in their manufacture. Our Chemical Laboratory checks all material as received; our Physical Laboratory tests forgings while in process and upon completion; our skill has been developed by half-a-century's experience in producing our standard stock tools and innumerable special designs to order.

MATERIAL

The material usually employed in making drop-forgings is bar steel. By carrying thousands of tons of assorted grades, shapes and sizes, many orders for drop-forgings can be completed without waiting to obtain the material. This is often a great convenience to our customers, particularly in the case of new dies, where the correct size of metal required cannot always be definitely determined until the tools are completed and tried.

DIES

Our facilities for sinking drop-forging dies, from the smallest, weighing only a few pounds, to massive blocks of several tons weight each, are unexcelled. Charges, when made for the use of dies, include but a portion of their cost and do not convey the right of removal from our works. We assume the risk and expense of their breakage and maintenance; the customer controls their use, as we will not make forgings from them without his written authority.

ESTIMATES

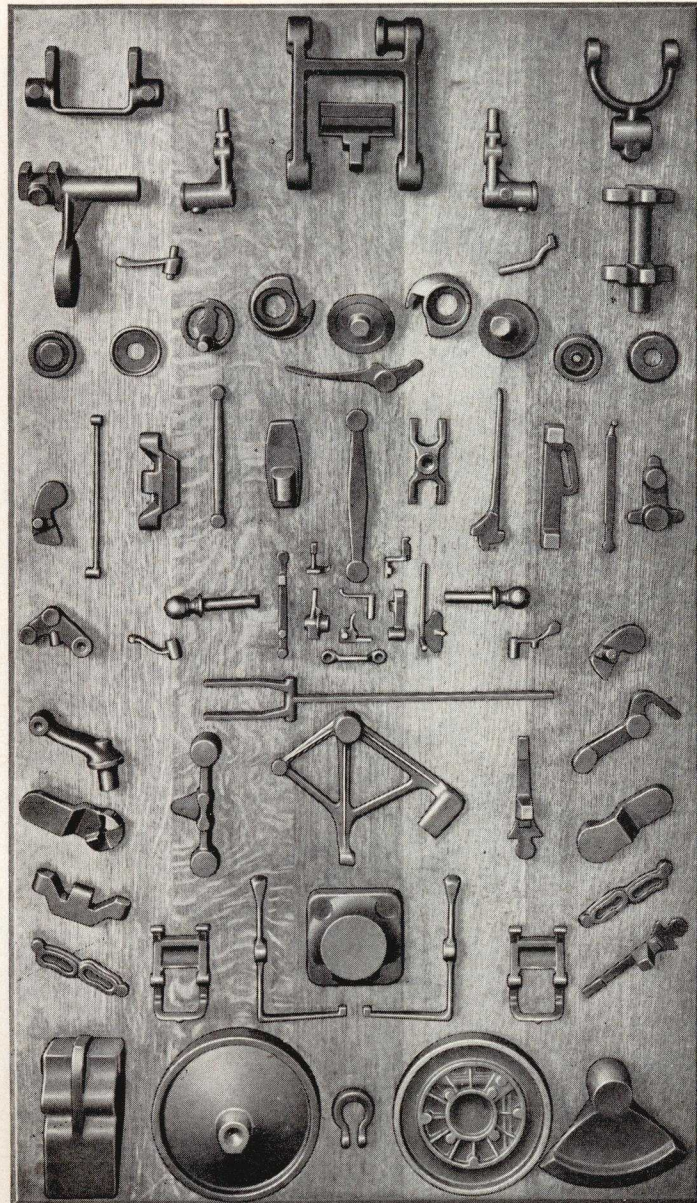
Dies are made to conform to a drawing; they usually differ from the finished part by the addition of the stock for removal in finishing and by the necessary draft, or taper, to permit drawing the forgings from them. Draft is seldom less than seven degrees—frequently it is more. Before sinking dies, we always submit to the customer for approval, a blue print showing the addition of the stock to be removed in finishing and the draft, with such other modifications as may be necessary.

When estimates are desired, therefore, send us a model, or drawing, of the part and state whether it shows "forging size" or "finished size," the quantity of forgings wanted and the material of which they are to be made. If the model, or drawings shows "finished size," tell us what surfaces are to be finished. We usually add at least 1/32 inch on each surface to be machined. On large forgings we add 1/16 to 1/8 inch; on small pieces, requiring only grinding or polishing, 1/100 inch is allowed.

The price of drop-forgings is largely affected by the quantity made with one setting of the tools; it costs as much to set dies for 100 as for 1000 pieces, and the forging work is also more costly per unit in small lots. Prices for drop-forgings vary with the nature of the work, the material used, the heat treatment if any, and the quantity taken at one time.

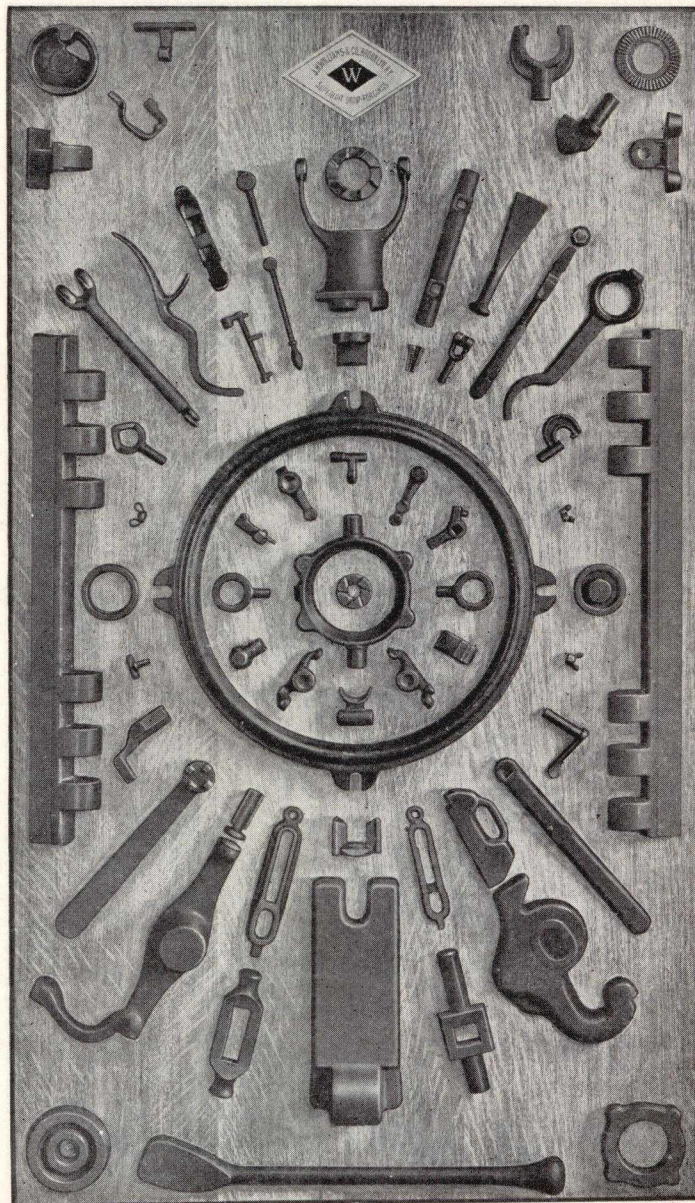
DROP-FORGINGS TO ORDER

Illustrations of Drop-forgings made to order; not for sale from stock



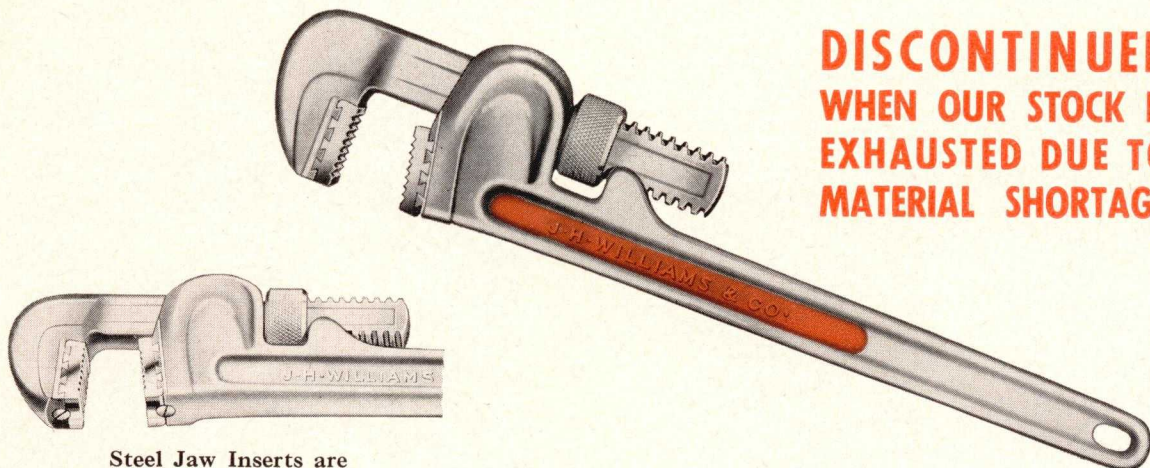
DROP-FORGINGS TO ORDER

Illustrations of Drop-forgings made to order; not for sale from stock



WILLIAMS' ALUMINUM PIPE WRENCHES

PATENT PENDING



**DISCONTINUED
WHEN OUR STOCK IS
EXHAUSTED DUE TO
MATERIAL SHORTAGE**

**Steel Jaw Inserts are
Replaceable and Interchangeable**

Williams Aluminum Pipe Wrenches are fully drop-forged from special high tensile aluminum alloy carefully heat-treated for maximum strength and toughness to exceed the physical requirements of Federal Specification GGG-W-651a for "Heavy Duty Pipe Wrenches Type II".

Their strength and long-wearing qualities are comparable with heavier iron or steel wrenches. They will withstand the abuse and severe usage, associated with this type of wrench, over years of service.

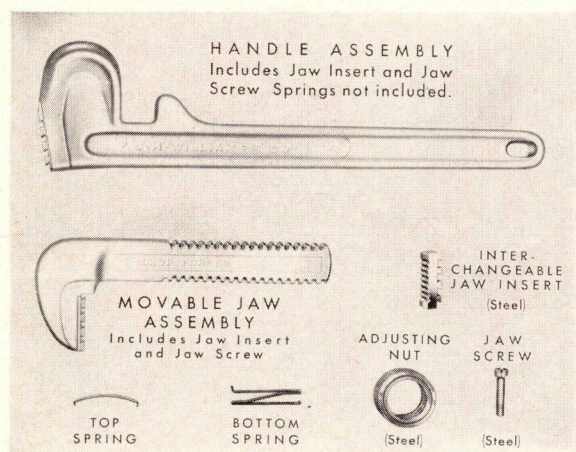
Intense research and design effort have produced unusual balance and stamina. Weight has been reduced nearly 50%. The result is greater handling ease and less worker fatigue.

Replaceable alloy steel jaw inserts are interchangeable. The same insert fits handle and or movable jaw. Multiple dove-tail design and retaining screw assure easy assembly and firm anchorage. Inserts have rust resistant finish.

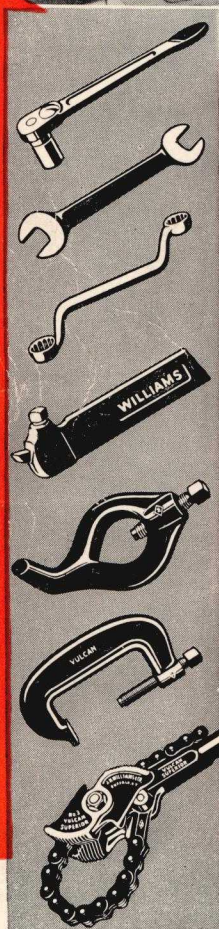
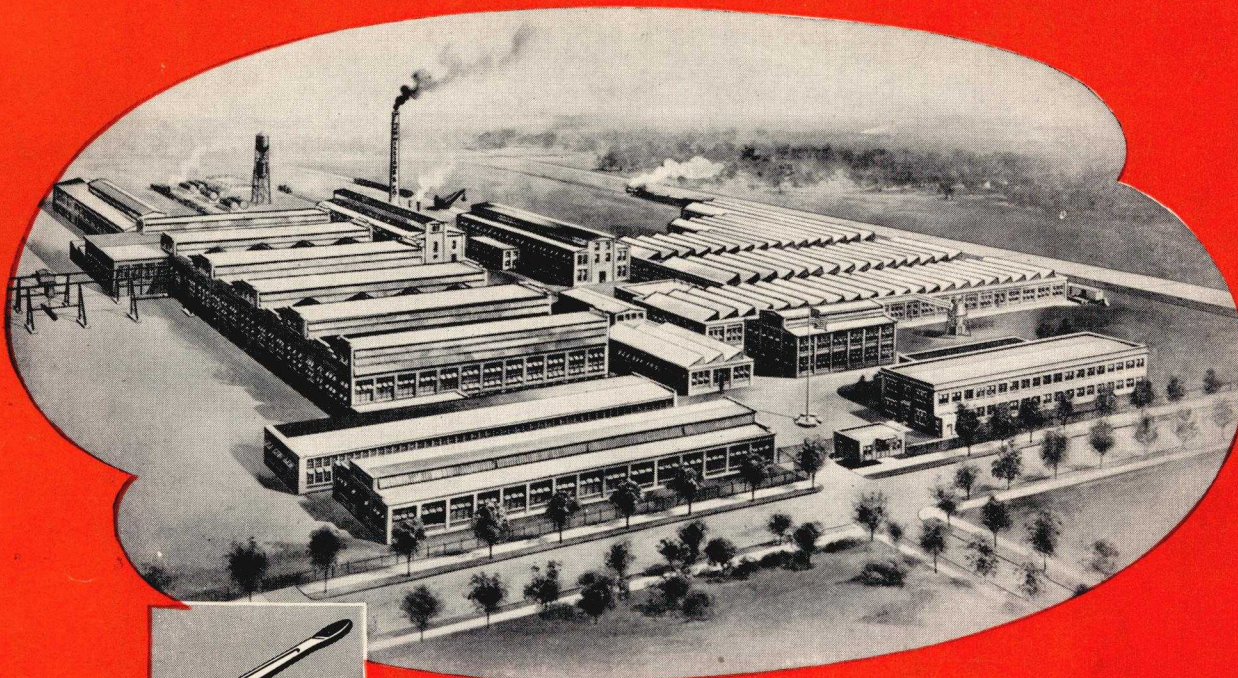
Steel Adjusting Nut is case-hardened, knurled for easy adjustment and has rust resistant finish.

Movable Jaw is suspended between two springs of unique design. Gripping action is immediate and positive.

Williams Aluminum Pipe Wrenches have natural satin finish.



| Size | Capacity Pipe | Weight Each, Lbs. | Extra Parts | | | | | | |
|------|---------------|-------------------|-----------------|----------------------|---------------|------------|---------------|------------|-----------|
| | | | Handle Assembly | Movable Jaw Assembly | Adjusting Nut | Top Spring | Bottom Spring | Jaw Insert | Jaw Screw |
| 14" | 2" | 1.6 | | | | | | | |
| 18" | 2-1/2" | 2.5 | | | | | | | |
| 24" | 3" | 4. | | | | | | | |



**CARBON AND ALLOY STEEL WRENCHES IN
ALL TYPES • DETACHABLE SOCKETS AND
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TOOL HOLDERS • "C" CLAMPS • LATHE
DOGS • CHAIN PIPE TONGS AND VISES •
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SCREWS • PLIERS • SCREWDRIVERS • PUNCHES
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TIPPED HAMMERS • CRANK AND
BALANCE HANDLES • FENDER REPAIR TOOLS**

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imperfections of workmanship and materials.*

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